

ORNITHOLOGICAL LITERATURE

Bewick's Wren's in Kentucky and Tennessee: distribution, breeding success, habitat use, and interactions with House Wrens. Michael E. Hodge and Gary Ritchison. 2007. *The Kentucky Warbler* 83:91-102.

One of the unsolved ornithological mysteries of the 20th century was the precipitous decline of the eastern populations of Bewick's Wren. During the 19th and early to mid-20th centuries, the species was common east of the Mississippi River, but today it is rare and on the verge of extirpation. This study documents the current status of Bewick's Wren in Kentucky and Tennessee, presents new habitat information, and offers an analysis of the hypotheses that have been proposed to explain the species' decline from the eastern portion of its range.

Twelve sites from Tennessee and 11 from Kentucky, where the species had been reported between 1990-2002, were visited during the breeding seasons of 2001 and 2002. In addition, 285 locations with apparently suitable habitat were surveyed during that same time period. Recordings of songs were used to confirm the presence or absence at a site. Data concerning pairing status, nesting, and territories were collected at occupied sites. Vegetation data were also collected at occupied and unoccupied sites to help characterize the vegetation structure of habitats used by Bewick's Wrens.

Two hundred and ninety locations in 47 counties in Tennessee and Kentucky were surveyed. Only 14 - 18 (depending upon whether four individuals returned or not) individuals at three sites in three counties in Kentucky and eight sites in three counties in Tennessee were located. Four individuals were located in Kentucky: one male in Warren Co., one male in Taylor Co., and a pair in Scott County. In Tennessee, four pairs and seven males were in Rutherford Co., one male was in Sumner Co., and one male was in Wilson County. Only one breeding pair was found in 2001 (Rutherford Co., TN) and five pairs were found in 2002 (Rutherford Co., TN - 3 pairs; Sumner Co., TN - 1 pair; Scott Co., KY - 1 pair). Territories were located in open farmland that had little to no understory, few shrubs, and scattered trees. Occupied sites also often included old buildings, farm implements, and abandoned vehicles. First nests of the season were started in early April and second nests were initiated in late May and early June. All nests were constructed in manmade structures (e.g., motorcycle helmet, barbecue grill, abandoned house trailer). A total of 43 nestlings fledged from seven nests at four sites.

The study confirms the continuing decline of Bewick's Wren in Kentucky and Tennessee. Hypotheses discussed to explain the decline included: 1) changes in forestry practices 2) urbanization 3) competition with House Wrens, House Sparrows and European Starlings, 4) severe winters, 5) pesticide use, and 6) conspecific attraction behavior (i.e., attraction to areas where there are other Bewick's Wrens). The authors suggest that initially the decline may have begun because of the loss and fragmentation of available habitat (i.e., large disturbed areas) due to changes in forestry practices (less deforestation) and farming practices (less subsistence farming). As landscape changes continued (i.e., larger forest patches and fewer, smaller disturbed areas), species like the Bewick's Wren, that may be an area-sensitive species (i.e., require large areas suitable for attracting numerous Bewick's Wrens), had less and less suitable habitat for breeding and dispersing. Additional factors that sped up the decline may have been competition with House Wrens, severe winters, and a limited ability to disperse.— TMH