

FEATURE ARTICLES

**TERRITORIALITY, SITE FIDELITY, AND SURVIVORSHIP OF WILLOW
FLYCATCHERS WINTERING IN COSTA RICA**

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Abstract. We studied wintering Willow Flycatchers (*Empidonax traillii*) in two seasonal freshwater wetland habitats in northwestern Costa Rica during five boreal winters, to determine habitat occupancy, overwinter and between-year site and territory fidelity, and the degree to which the sexes maintain and defend winter territories. Both males and females used agonistic displays, song, and other vocalizations to maintain and defend mutually exclusive winter territories. Males were generally more abundant than females, but this varied by site and year. There was no significant difference in male and female territory size, nor any indication of sexual habitat segregation. Similarity in morphology and aggressiveness between the sexes may account for the lack of habitat segregation and the ability of females to maintain territories at wintering sites. Each year, 80%–92% of banded flycatchers that were present in midwinter remained at the site until late winter; of these, 86%–100% of individuals maintained the same territories throughout the entire period. We also observed nonterritorial floaters that subsequently established and held winter territories. Between-year site fidelity averaged 68%, and almost all returning birds established territories with boundaries similar to the previous year. Between-year apparent survivorship estimates ranged annually from 54%–72%, with no difference between sites but weak support for higher survivorship of males compared to females. Values for winter site and territory fidelity were generally higher than those reported for other species and for Willow Flycatchers on the breeding grounds; between-year survivorship estimates were similar to those reported for breeding flycatchers.

Key words: *Empidonax traillii*, *floaters*, *nonbreeding*, *site fidelity*, *survivorship*, *territoriality*, *Willow Flycatcher*.