

ABSTRACT

THESIS: Habitat use by fledgling Cerulean Warblers (*Setophaga cerulea*), and roost site selection by adult male Cerulean Warblers during the breeding season in southern Indiana

STUDENT: Clayton D. Delancey

DEGREE: Master of Science

COLLEGE: Sciences and Humanities

DATE: July 2018

PAGES: 167

Since 2007, Cerulean Warblers have been listed as state-endangered in Indiana (Indiana General Assembly 2007), and are a species of conservation concern according to the United States Fish and Wildlife Service (Buehler et al. 2008). This study focused on identifying microhabitat preferences on different aspects of Cerulean Warbler ecology. I examined habitat use of fledgling Cerulean Warblers (2015-2017). Results from statistical analyses showed that fledglings, when compared to randomly generated points, were positively correlated to presence of grapevine, vertical vegetation density, ground cover, and canopy cover. Fledgling presence was also negatively correlated to white oak abundance, aspect, basal area, and the abundance of mature trees (species used for nesting minus white oak). Another uncommonly studied aspect of avian biology is roosting ecology. Very few literature exists on roosting ecology of passerines in North America. Only one study has examined microhabitat characteristics on a passerine (Wood Thrush) in North America. A recently published manuscript examined Cerulean Warbler roosting, but did not collect microhabitat data or attempt to associate roost sites with nesting stage. Data on roost sites of Cerulean Warblers can provide information on additional microhabitat preferences within their territory or home range throughout their breeding

distribution. In 2017, I examined habitat use of roosting male Cerulean Warblers. Statistical analyses revealed that Cerulean Warblers chose sites with higher canopy cover, more grapevine, more shrubs, steeper slopes, less white oak, and less basal area. By studying aspects of their ecology, land resource managers will be provided with information on the needs of Cerulean Warblers. This new knowledge will help foresters produce or manipulate forests to best suit the habitat preferences of Cerulean Warblers across their breeding range.