

# Foraging Selection and Behavior of the Cerulean Warbler in Response to Timber Harvests

**Gregory George**, *West Virginia University Division of Forestry and Natural Resources and USGS West Virginia Cooperative Fish and Wildlife Research Unit, West Virginia University, Morgantown, WV 26506*

**Petra Bohall Wood**, *West Virginia University Division of Forestry and Natural Resources and USGS West Virginia Cooperative Fish and Wildlife Research Unit, West Virginia University, Morgantown, WV 26506*

---

*Abstract:* Foraging ecology of cerulean warblers (*Dendroica cerulea*) is not well studied, yet an understanding of foraging behavior and selection of foraging habitat is important for conservation and management. During the 2006 breeding season, 359 foraging observations were collected on eight study plots in West Virginia and four in Kentucky in a mixture of national forests, state Wildlife Management Area (WMAs), and private forests. We analyzed foraging observations to quantify tree species preference based on use versus availability based on a chi-square goodness-of-fit test. Cerulean warblers preferentially foraged in hickory (*Carya* sp.), northern red oak (*Quercus rubra*), and sugar maple (*Acer saccharum*), avoided American beech (*Fagus grandifolia*), basswood (*Tilia americana*), and red maple (*Acer rubra*), and used chestnut oak (*Quercus prinus*) and tulip poplar (*Liriodendron tulipifera*) in proportion to availability. Species availability is determined by importance values (IV) calculated from density, frequency, and basal areas. Of the three foraging maneuvers observed, vegetation pick was most common (69% of observations), and sally glean and wood/branch pick were 11% and 18% of maneuvers, respectively. Vertical foraging height was recorded in five 20% increments from ground level to top of the canopy. Few foraging observations occurred in the two lowest height categories. The majority of foraging observations (35%) were in the 80%–100% increment while the 60%–79% increment accounted for 33% of observations. Foraging observations were most common on the outer 20% of branch tips and 63% of observations were adjacent to canopy gaps. Over this past fall and winter (2006), silvicultural treatments representing three levels of harvesting intensity were implemented on all study sites which will facilitate examination of the effect of timber harvesting on cerulean warbler foraging ecology. Data collected during 2007 will be incorporated into the presentation and results will be related to potential management actions from silvicultural timber harvests.

Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 61:124