Mesohabitat Use of Threatened Hemlock Forests by Breeding Birds of the Delaware Water Gap National Recreation Area

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Abstract

To assess avian biodiversity, mesohabitat relations, and the risk of loss of species diversity with declining hemlock forests in Appalachian park lands, 80 10-min point counts of breeding birds were conducted in June 2000 on four forest-terrain types (hemlock and hardwood benches and ravines) in the Delaware Water Gap National Recreation Area (DEWA). Four insectivorous neotropical species, Acadian flycatcher (*Empidonax virescens*), blue-headed vireo (*Vireo solitarius*), black-throated green warbler (*Dendroica virens*), and Blackburnian warbler (*Dendroica fusca*) were found to be essentially obligate hemlock-associated species at risk should woolly adelgid-mediated hemlock decline continue in DEWA and similar forests of the mid-Atlantic east slope. Two of these species, the blue-headed vireo and Blackburnian warbler, appear to specialize in ravine mesohabitats of hemlock stands—the vireo a low-to-mid-canopy species and the warbler a mid-to-upper canopy forager. Avian biodiversity may be at risk in eastern parks and forests due to continued expansion of the hemlock woolly adelgid.

Keywords:

Species diversity, obligate bird species.