

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

Robert M. Ross, Lori A. Redell, and Randy M. Bennett

United States Geological Survey
Leetown Science Center Northern Appalachian Research Laboratory
Wellsboro, PA 16901

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.