



Patuxent Science Meeting 2004 Poster Abstract

Fifty-year Changes in Breeding Bird Populations on the Allegheny Plateau

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Robbins and Dowell returned to 11 representative study sites in Garrett County, Maryland, that he and the late Robert E. Stewart Sr. had studied 50 years earlier, and repeated the breeding bird censuses and quantitative habitat descriptions to measure the changes in forest structure and in bird populations. Then they compared 50-year changes in bird populations in the fragmented environment of western Maryland with those recorded by Haney et al. (2001) in relatively undisturbed forest in the Unicoi Mountains of North Carolina and Tennessee.

In the Unicoi mountains, the same four species remained dominant (Veery, Chestnut-sided and Black-throated Blue Warblers and Dark-eyed Junco) and permanent residents as a group decreased. On the Allegheny Plateau of Maryland, however, only the Red-eyed Vireo and Magnolia Warbler remained in the top four species. Blackburnian and Chestnut-sided Warblers fell from first and fourth place to ninth and tenth, being replaced by Northern Waterthrush and Canada Warbler. Major increases in permanent residents were noted, especially in chickadees, titmice, and nuthatches.

The greatest declines in rank (20 steps or more) on the Maryland plots were in Yellow-billed Cuckoo, Whip-poor-will, Ruby-throated Hummingbird, Great Horned and Saw-whet Owls, and five shrub- and ground-nesting warblers: Nashville, Golden-winged, Black-and-white, Hooded, and Yellow-breasted Chat. The greatest declines in the Unicois were in Ruby-throated Hummingbird, Northern Flicker, Eastern Wood-Pewee, White-breasted Nuthatch, and American Goldfinch.

The greatest increases in rank (20+ steps) in the Maryland sites were in Eastern Wood-Pewee, Acadian and Alder Flycatchers, Black-capped Chickadee, Red-breasted Nuthatch, Hermit Thrush, Rose-breasted Grosbeak, and Indigo Bunting. In the Unicois they were in Red-eyed Vireo, American Crow, Brown Creeper, Winter Wren, Golden-crowned Kinglet, Northern Parula, Song Sparrow, and Indigo Bunting.

Southern species in the Maryland plots not recorded 50 years ago (global warming?) were Red-bellied Woodpecker, Acadian Flycatcher, Tufted Titmouse, and Northern Cardinal. Northern species that had moved in as breeders (as result of maturing conifers planted by the State 40-50 years ago) were Red-breasted Nuthatch, Brown Creeper, Winter Wren, Myrtle Warbler, and Pine Siskin.

Treetop nesters and cavity nesters are stable or increasing. Many of the declining species in Maryland are ground- or shrub-nesting neotropical migrants that are retaining their abundance in the unfragmented forests of the southern Appalachians. Nashville Warbler, which had been at the very southern limit of its breeding range, is the only species detected in 1950 that could not be found breeding in Maryland fifty years later.

In spite of the loss of many of the ancient hemlocks at Swallow Falls State Park and the decline in Blackburnian Warblers there, the extraordinary height of the forest is still reflected in a high diversity and high density of nesting birds there.

The maturing pine plantations proved to be especially important for Blackburnian Warblers, a species of concern in Maryland. Harvest of any site where the Blackburnian is the commonest nesting species should be delayed.