

Colby Hill Ecological Project
Analysis of Bird Monitoring Data 1998-2003

by Warren King

The bird monitoring component of the Colby Hill Ecological Project has consisted of replicate point count monitoring at five sites about 200 meters apart along the old woods road that runs from the western corner of the Guthrie Bancroft fields in a westerly direction and down and crosshill to Route 17. The kilometer-long transect is entirely in forest and begins and ends at least 200 meters from the forest edge. The points are marked with aluminum tags and orange flagging on trees along the north side of the road. The point count data have been shared with VINS as part of their Forest Bird Monitoring Project (FBMP). Counts are made twice annually in the first and third weeks of June. A serious storm prevented completion of the second set of counts in 1998. Other wise the counts have followed VINS¹ FBMP protocol. Counts begin between 5 and 5:15 AM and last about 1.5 hours. The observers remain at each point ten minutes identifying and mapping all birds seen or heard.

Observers included Warren King and Judy Peterson in 1998 and Warren and Barry King thereafter. They identified 36 species during point counts, and an additional 21 species were found on Guthrie Bancroft Farm land in transit to or from the point counts and during a brief winter visit.

Bird Species Identified at Guthrie Bancroft Farm 1998-2003

Turkey Vulture*
Ruffed Grouse
Wild Turkey*
Mourning Dove
Black-billed Cuckoo*
Yellow-bellied Sapsucker
Hairy Woodpecker
Downy Woodpecker
Northern Flicker*
Pileated Woodpecker*
Eastern Wood Pewee
Least Flycatcher
Great Crested Flycatcher
Blue Jay
American Crow
Common Raven*
Black-capped Chickadee
Red-breasted Nuthatch

White-breasted Nuthatch
Brown Creeper
Winter Wren
Golden-crowned Kinglet*
Veery
Hermit Thrush
Wood Thrush
American Robin
Bohemian Waxwing*
Cedar Waxwing*
European Starling*
Blue-headed Vireo
Yellow-throated Vireo
Warbling Vireo
Red-eyed Vireo
Yellow Warbler*
Magnolia Warbler
Black-throated Blue Warbler
Black-throated Green Warbler
Blackburnian Warbler
American Redstart
Ovenbird
Louisiana Waterthrush*
Common Yellowthroat
Canada Warbler
Scarlet Tanager
Rose-breasted Grosbeak
Indigo Bunting*
Chipping Sparrow*
Song Sparrow*
White-throated Sparrow
Red-winged Blackbird*
Brown-headed Cowbird*
Baltimore Oriole
Pine Grosbeak*
Purple Finch*
Pine Siskin*
American Goldfinch
Evening Grosbeak*

* Not recorded during point counts

An average of 24 species were seen at each point over the six years period, with a high of 27 and a low of 19. Repeating the count two weeks later is important in generating a more complete picture of species presence and distribution. A third count would add additional species not identified

during the first two counts, but, judging by the relatively low number of additional species newly identified during the second count, the total would be augmented only slightly. An average of 12.08 species were identified per point. Of these, 3.68 species on average were added with the second count. Assuming an augmentation rate for a third count similar to the 30 percent increase between counts one and two yields an additional one species per point.

The number of species recorded per year varied between 17 and 26 with an average of 22. The average number of species at each point was 11.4. Thirty-seven percent of species at each point were recorded both first and second count. Some species were far more likely to be recorded at a point on both counts than others. For example, White-throated Sparrow, although only recorded at point 1, was recorded there on both counts all three years it occurred there. By contrast, Hermit Thrush was recorded on 13 point counts, but only two of these (15%) occurred at the same point during the same year. The two most ubiquitous species, Red-eyed Vireo and Ovenbird, occurred in the first and second counts at a point 79 and 80 percent of the time respectively.

Some species demonstrated no preference for points; others did. Yellow-bellied Sapsucker, American Robin, Red-eyed Vireo, Ovenbird, Scarlet Tanager and Rose-breasted Grosbeak occurred with the same frequency at each point. Canada Warbler and White-throated Sparrow only occurred at point 1, the point wettest underfoot and closest to canopy openings. Great Crested Flycatcher, Blue Jay, Brown Creeper, and Black-throated Blue Warbler occurred only at points 1, 2, and 3. Eastern Wood Pewee, Least Flycatcher, Wood Thrush, American Redstart and Black-throated Green Warbler occurred mostly at points 3, 4, and 5. Seven species were identified only once or twice: Ruffed Grouse, Mourning Dove, Red-breasted Nuthatch, Yellow-throated Vireo, Warbling Vireo, Common Yellowthroat and American Goldfinch.

Because the sample size is modest, conclusions regarding the relationship between species and points and the implications relative to differences in elevation, age of forest stand, extent of undergrowth, tree species composition, forest productivity, etc. are speculative at best.