

NAMB, and seven RES species. Blue Jays and American Crows had the highest frequency of occurrence among these, as well as the highest absolute abundance, which is simply the total number of birds observed during point count surveys (Table 1).

Relative abundance of all birds observed during point count surveys is listed in Appendix 1. The most abundant NTM in early fall was the Lesser Yellowlegs, whereas in the late spring the Tennessee Warbler was most abundant. Breeding NTM passerines were observed in all survey periods except during the winter, early spring, and late fall. Blue-winged Teal, which was the only NTMb observed in late fall, and Gray Catbird were most abundant in early fall. In late spring, the Barn Swallow was the most abundant NTMb. However, during the summer survey abundance among the 23 NTMb species varied little (148 individuals). The most abundant NAMs were the White-throated Sparrow (late fall), Dark-eyed Junco (winter), Rusty Blackbird (early spring), and Yellow-rumped Warbler (late spring). Canada Goose, American Robin, Red-winged Blackbird, and American Goldfinch



were the most abundant breeding NAMs. Seven Permanent Resident species were observed during every survey: Red-bellied Woodpecker, Downy Woodpecker, Hairy Woodpecker, Blue Jay, American Crow, Black-capped Chickadee, and White-breasted Nuthatch. Of these, jays and crows were the most abundant

The Eastern Wood-Pewee was expected in greater numbers than found at the Green Wing Environmental Laboratory during the authors' research. Eric Walters took this photo in Evanston, Cook County 28 May 2004.

and frequently encountered residents throughout all surveys.

The following species were observed outside the time frame of our study: Snow Goose, Ruddy Duck, Bald Eagle (T. Roller, pers. comm.), Broad-winged Hawk, American Coot, Sandhill Crane, Greater Yellowlegs, Common Nighthawk, Willow Flycatcher, Cliff Swallow, and Mourning Warbler.

Discussion

During this study, we encountered a high diversity of species, including a large number of Neotropical Migrants. Although this site maintained a diverse avian community during the breeding season, spring and fall migration yielded the most species.

Despite the high richness, the results concerning the frequency of occurrence were unexpected. We found that 13 of 140 species (9.3%) of the taxa were found at >20% of the point count stations. None of these included non-breeding migrants and less than 50% of them were migrants, in general. Based on previous work using the same methods, in similar habitat types, and within the same geographic location (McKay et al. 1999), we expected that twice as many species would have been found at 20% or more of the count stations, and that this would have included some of the non-breeding migrants. It could be that small habitat islands such as GWEL are avoided by breeding migrants. On the other hand, low sampling effort may have skewed the results to favor residents being found at >20% of the stations. This is undoubtedly caused by the fact that many migrants, particularly the NTM species, were present only during the late spring, summer, and early fall surveys.

Our results show that forest interior breeders have low relative abundance. This was found for species

Table 1. Species with the highest values for frequency of occurrence (>20) and absolute abundance (top 10). See Methods section for definitions of migratory class.

	Species	Numerical Value	Migratory Class
Frequency of Occurrence	Blue Jay	80.8	RES
	American Crow	71.8	RES
	Northern Cardinal	48.7	RES
	American Goldfinch	41	NAMB
	Red-bellied Woodpecker	39.7	RES
	American Robin	35.3	NAMB
	White-breasted Nuthatch	34.6	RES
	Black-capped Chickadee	32.1	RES
	Red-winged Blackbird	26	NAMB
	Canada Goose	25.6	NAMB
	Downy Woodpecker	23.1	RES
	Gray Catbird	21.8	NTMb
	Brown-headed Cowbird	20.5	NAMB
Absolute Abundance	Blue Jay	207	RES
	American Crow	178	RES
	Red-winged Blackbird	162	NAMB
	American Robin	125	NAMB
	Northern Cardinal	93	RES
	Canada Goose	79	NAMB
	American Goldfinch	72	NAMB
	Killdeer	67	NAMB
Red-bellied Woodpecker	62	RES	
Black-capped Chickadee	58	RES	