had been sprayed to prepare for planting. No remnants of the nest or eggs could be found. The stilts did not return to this site that summer.

Interestingly, a second nest for Illinois and possibly the northernmost for interior North America was discovered by Kevin Richmond on 27 June 1994 approximately 190 miles north in Mason County at Lake Chautauqua National Wildlife Refuge just northeast of Havana off one of the lake's mid-levees. This nest contained two eggs and was observed by many birders through 1 July 1994. Unfortunately high water destroyed the nest on 3 July 1994.

These two confirmed nesting records for Black-necked Stilt in Illinois could be part of a dramatic expansion of the species' breeding range that has been occurring just to the south and west in the neighboring states of Missouri and Kentucky (Robbins and Easterla 1992, Palmer-Ball and Bennett 1993).

LITERATURE CITED

Fink, T. 1994. Seasonal Highlights. Breeding Season 1993. Breeding evidence for Black-necked Stilt in Jackson County. Meadowlark: A Journal of Illinois Birds 3:18.

Palmer-Ball Jr., B. and M. Bennett. 1993. First Reported Nesting of Black-necked Stilt in Kentucky. The Kentucky Warbler 69:65-68.

Robbins, M. and D. Easterla. 1992. Birds of Missouri: their distribution and abundance. University of MissouriPress, MO.

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A Relationship Between Songbird Breeding Success, Small Mammal Abundance, and Fragmented Forests in Eastern Pennsylvania

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The Problem

Initially, recorded population declines of neotropical migrant songbirds that breed in North America were attributed to loss of wintering habitat in Mexico, Central America, and the West Indies (Morton 1980, Ambuel and Temple 1983). Because these birds often congregate within tropical forests for over half the year, researchers believed that habitat loss resulting from widespread tropical deforestation would have detrimental effects on wintering populations leaving fewer birds to return north and reproduce (Askins et al. 1990).

> Small mammals were significantly more abundant in small forests compared with large forests.

Further study suggested that loss of nesting habitat in North America is also significantly contributing to the recorded population declines (Whitcomb et al. 1981). Extensive clear-cutting has reduced once large, uninterrupted tracts of forest to woodland "islands" isolated by "seas" of agriculture and suburban development (Robbins et al. 1986). From the perspective of many forest-interior songbirds, these fragmented matrices are less than optimal nesting habitat and considerably more hostile than the large forests in which many of these birds have evolved (Askins et al. 1990). The reduced breeding success of several neo-tropical species such as tanagers, warblers, thrushes, and flycatchers has been associated with external pressures resulting from the small sizes of forest fragments (Whitcomb et al. 1981, Wilcove 1985, Robbins et al. 1989).

There has been some success in identifying the mechanisms that lead to depressed songbird reproductive success. Although in most cases a combination of factors are believed to affect the avifauna, two major factors have been repeatedly identified (Whitcomb et al. 1981, Wilcove 1985). One is a high incidence of brood parasitism by Brown-headed Cowbirds (*Molothrus ater*) that has been recorded in and near forest edges as this species continues to expand its range eastward (Brittingham and Temple 1983). The other factor, depredation of nests by a variety of animals, has been found to limit reproductive success of songbirds in small forests (Wilcove 1985, Martin