

biology of North American Birds during their migration. About two-thirds of North American bird species migrate annually between the temperate zone and various tropical regions in the Americas (Moore and Simons 1992), and many additional species migrate within the temperate zone. Even before the Breeding Bird Survey trends first indicated that many North American migrant bird populations were declining, North American ornithologists had turned a great deal of attention to studying the unique complexities of these birds that integrate such large domains of space within their life histories (Keast and Morton 1980). This trend has continued over the past three decades, resulting in great advances in our knowledge of these birds, particularly with regard to their breeding and wintering biology. However, the biology during the migration, itself, remains one of the most significant gaps in our understanding of North American migrant birds (Lindstrom 1995), possibly owing to the inherent difficulty and the narrow time window of opportunity afforded to biologists to study migratory birds during migration. Banding studies such as SWAMP, conducted during migration at a stopover site, represent a unique opportunity to address such questions of "stopover biology". By individually and permanently labeling birds, banding studies enable the study of bird longevity and the fidelity of individual birds to particular migration stopover sites from year to year (eg. Merom et al. 2000). As all banding activity is reported to the U.S. Bird Banding Laboratory, recaptures of individual birds at different localities permit the discovery of specific migratory routes and allow us to make connections between particular wintering, summering, and migratory populations of birds. Banding studies may reveal differential timing or spatial patterns of migration among age classes or sexes (eg. Yong et al. 1998). They reveal information about how long individual birds stay at stopover sites (eg. Schaub et al. 2001), how much weight they lose or gain during stopovers (eg. Dunn 2001), and various aspects of a bird's condition during stopover, such as the extent of subcutaneous fat deposits (eg. Pilastro and Spina 1997), the extent of feather wear and molt (eg. Leu and Thompson 2002), and reproductive condition. We believe that SWAMP holds tremendous promise for advancing our understanding of both Chicagoland-specific and general issues regarding the stopover biology of, and population trends in North American woodland migrant birds.

Materials and Methods

We selected the Skokie River Nature Preserve in Lake County, Illinois, as the site for this study. This property is owned and managed by the Lake Forest Open Lands Association and consists of a mixture of restored tallgrass prairie, original prairie remnants, and

woodlands. Netting was conducted in the Shaw Woods portion of the Preserve, a narrow corridor of mesic and riparian woodland located between two patches of prairie. The forest in this area is dominated by cottonwoods, which form a tall and sparse canopy. The understory and subcanopy vegetation is extremely dense, and is dominated by introduced buckthorn and honeysuckle.

Twelve standard (35 mm mesh, 12 m length) mist net lanes were established in April, 2002, in a 1 hectare portion of the Woods. These lanes were distributed in three roughly parallel rows, with a minimum of 30 meters separating the rows from each other. A 2-meter wide strip was cleared of brush for each net lane. Mist-netting was conducted on thirteen days from 3 May to 23 May 2002. Nets were opened at 0600 am or 0530 am, and kept open for five hours each morning. While open, nets were checked at least every hour, and all captured birds were extracted from the nets and placed in separate cloth holding bags labeled with the net number and time of capture. These birds were then brought back to await processing at the banding station, which consisted of a few tables and chairs set up on a trail roughly 50 meters from the nearest net lane. At the banding station, each bird was first banded with an individually numbered, permanent aluminum leg band from the U.S. Federal Bird Banding Laboratory, and was then measured and examined by the bander. On each bird, we measured wing chord and weight (with a 25 gram or 100 gram spring scale), and rated external parasite load, flight feather molt, body molt, reproductive condition, subcutaneous fat deposits, and flight feather wear on qualita-



A male Black-and-white Warbler with wing extended. Studying birds in the hand allows for detailed inspection of feather condition and molt patterns. Photo taken in May 2002 by Blaire Skinner.