Sandhill Crane nesting areas in McHenry and Lake Counties, Illinois, were detected by helicopter and on land surveys in spring 2009.

A Sandhill Crane and its two young walk through feeding grounds in northeastern Illinois during summer 2009.

different land uses (Figure 2). Growth may also vary between sites with different land uses; however, conclusive support for this trend requires more data as it may be subject to sampling bias: As the season progresses, urban cranes are easier to find and recapture than those in taller wetland and grassland vegetation, biasing data collection for growth curves (and to a lesser extent survival rates) toward more open urbanized areas.

The first drop in survival rates (Figure 1) may be attributable to colts' age and corresponding lack of mobility and experience evading predators. That is, other researchers and I suspect a role for learned behavior and the associated learning curve in colt survival. In turn, the third drop in Figure 1 is perhaps due to older and more mobile and experienced colts venturing both farther from familiar natal ranges and their parents. Chance events (e.g. storms) may be responsible for the second drop seen in Figure 1; which, in fact, likely play a role in survival over the course of every breeding season. Elucidating the extent to which learned behavior, increased independent/exploring behavior, and random chance influence colt survival requires supplementing the current data with additional research.

Survival varying between sites with different land-uses (Figure 2) was not unexpected. Agricultural fields offer ample sources of sustenance and food is easily obtained. This fact has not eluded cranes – to a migratory species whose young gain approximately 15 times their own mass in a month, agricultural fields have surely become assets (Tacha et al. 1992). Complaints of Sandhill Cranes as agricultural pests range from Colorado (Laubhan & Gammonley 2001) to Wisconsin (Blackwell et al. 2001) to Saskatchewan (Sugden et al 1988).

Researchers Brad Semel, Michael P. Ward and I infer that the trend is either influenced by the same sampling bias that troubled data collection for growth curves; or, is a consequence of predator densities in the grasslands and wetlands of preserves and predators' foraging behaviors in urban/suburban environments. Without additional information regarding predator densities and an increased sample size from grassland and wetland habitats the underlying factors behind survival varying between different landscape compositions are not entirely clear.

Our findings contrast with another study that revealed lower survival rates in highly disturbed habitats compared with those in intact habitats (32 percent and 86 percent mean annual survival, respectively – Toland, 1999). It is, however, of interest, that mean annual survival (38.97 percent) in this study more closely resembles the aforementioned findings in disturbed habitats. Additionally, 47.61 percent survival rates in a population increasing 33.3 percent annually contrasts with the 64.9 percent survival rate observed in a stable population of Florida Sandhill Cranes (Nesbitt 1992) and 97 percent survival rate in an increasing Rocky Mountain population (Drewin et al. 1999).

Conclusion

Cumulatively, data collected thus far suggest a source of Illinois' Sandhill Crane population explosion— Wisconsin. It is peculiar to note that over the 25 years in which cranes have become so numerous, breeding pairs with fledglings were infrequently observed at the conclusion of each breeding season. In conducting the first year of this