

proximity to the Chicago River. The shorebirds may be using the river as a navigational tool through the urban canyons.

Out in the suburbs, Willowbrook Wildlife Haven tends to receive injured warbler, thrush, and sparrow species during migration, but in a much lower proportion than is commonly found at the Chicago lakefront. Willowbrook, however, sees far more injured birds of prey and dabbling waterfowl than are found in city locations and has a very busy summer emergency room for injured breeding birds. Injuries are frequently the result of car collisions, high tension wire tangles, cat and dog attacks, and mishaps with gardening activities. In the winter, Willowbrook also cares for more window collision injuries of birds using backyard bird feeders.

Most birders probably assume on an intuitive level that the magnitude of the bird casualties described are significantly contributing to the declining numbers of migratory birds we seem to observe each year.

Estimates for the rate of bird deaths vary widely, taking into account vagaries of weather and cataclysmic events. Klem conservatively estimated in 1991 that 97.6 million birds per year are killed by collisions with plate glass windows. The upper limit of Klem's death range from window collisions is 975 million birds per year. To put this shocking number in context, at the low range of man-caused death estimates, only hunting, accounting for 41 percent of mortality, results in more bird deaths. Plate glass collisions account for more than one-third of all deaths of birds caused by humans each year.

Willard said his preliminary data for McCormick Place, however, does not show widespread population declines of many species. "It's rather appalling that we are getting such consistent data from our dead bird collecting at McCormick Place," said Willard. "When you pick up so many

dead birds year after year, it's hard not to try to translate that into a prediction of the decline of many species. But that is not, in fact, borne out by our collection of bird casualties over 15 years. If species' numbers were dropping significantly, we'd be seeing a crash in the number of birds we collect each season overall and by species. But in fact, we are not seeing any significant dips. Our rate of specimen collection is reasonably constant. Our urban data is not showing a correlation with the declining bird numbers shown by breeding bird surveys."

But for most birders, avian deaths of this magnitude are appalling. "I think it's horrible. I never get used to it," said Al Welby. "It blows my mind that these species fly all that distance - like a Yellow-rumped Warbler - only to end their lives in a stupid, needless death against the pane of a building. I know that what I see is just a tiny microcosm of what's happening nationwide, worldwide. The death of these birds is out of the sight of most normal people; they don't even notice the dead birds at the bottom of 311 S. Wacker as they step on them. But a lot of these deaths are preventable."

Welby's company may move into the Wedding Cake building, which will give him a little more sway as a tenant than he has now as a "crank

birdwatcher."

"If we piled up all the birds which died in the city in a year, we'd have a staggering number, a huge mound of bodies," said Beecher. "I'm 80 years old and it's now time for younger people to take up the torch. Every person who builds a big building nowadays feels he has to put a candle up on top of it to celebrate. But that candle means death for migrating birds. With a lot of publicity, birders could influence the way older buildings are lighted, how their windows are curtained and screened, and how building managements tackle the problems. With concerted effort, birders could perhaps influence how new buildings are constructed to make them less hazardous to birds in the future."

Klem agrees: "The problem demands serious attention by all professionals acting in an environmentally responsible manner and dedicated or sympathetic to conservation, management, and the preservation of biodiversity. In my view, enough evidence already exists to suggest that unless preventive measures are enacted, glass will become an ever increasing threat to select species and birds in general."



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