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Project Safe Flight: Making New York Safe for Migratory Birds

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In 1997 NYC Audubon volunteers participated in a project designed by Dr. Dan Klem of Middleberg College (Gall & Delacresetaz 2006). Some high-colliding sites from that study have been monitored ever since. Based on data collected from the same routes for ten or more years. Other sites have been added, such as the Jewish Theological Seminary, because a baseline data are needed for future retrofitting of bird-friendly window treatments. All new collision sites have been brought to our attention. Building owners have requested monitoring as part of NYC Audubon’s Lights Out NY campaign, or new areas of the city have been added to the monitoring program. Some sites have been eliminated—for example, the Morgan Library and Drexel Center, a mall opening on Nineteenth Avenue and 200th Street in Manhattan, and the Javits Center patrolling. We performed a persistence study that essentially eliminated bird collisions at this site (see inset). The ongoing study is helping us find the likelihood that a collision will occur, find and record it. We thank the NYC Audubon Project Safe Flight volunteers and staff, past and present, who monitored NYC streets and collected data for 16 years of PSF data, during which volunteers collected over 6,000 birds of 126 different species. The top two species, White-throated Sparrow and American Woodcock, made up the majority of early spring collisions and Dark-eyed Junco and American Robin, respectively, the majority of late spring collisions. Between 600 million and 1 billion birds die from collisions with windows, most of which are young birds becoming exhausted and confused, only to land and eventually die (Klem et al. 1997; Klem 2009). Fig 2. Sides with high collision density 1997-2013. Colored circles represent the total number of collisions.

Collisions by Species

From 1997-2013 monitors recorded 6,279 birds from 126 species. Repeated of raptors and shorebirds were observed in 14%, with the vast majority of collisions being landbirds. The four species examined each year are the Black-throated Sparrow (Z. albicollis), Common Yellowthroat (G. flavifrons), White-throated Sparrow (Z. asiaticus), Common Yellowthroat (G. flavifrons), and Dark-eyed Junco (Junco hyemalis), and Cowbird (M. erythrocephalus). High collision risk, to reduce bird deaths and feasible solutions to collisions, including ‘bird friendly’ glass, was studied by Klem et al. (2006). We found 56 bird species died in collisions with buildings, but 35 were never recovered; 35% were found by monitoring and 60% lost, S. R., T. Will, and P. P. Marra. 2013. The impact of free-ranging domestic cats on wildlife of the United States. Nature communications. Klem et al. (2006). We found 56 bird species died in collisions with buildings, but 35 were never recovered; 35% were found by monitoring and 60% lost, S. R., T. Will, and P. P. Marra. 2013. The impact of free-ranging domestic cats on wildlife of the United States. Nature communications.

Conclusions & Future Studies

The results of the persistence study suggest that our estimate of 90,000 bird deaths per year caused by collisions with glass in New York City is an underestimate. Many dead or injured birds disappear before they are found by PSF monitors and the timing during the day when PSF monitors are available may not be ideal for finding birds. Birds may be more likely to be found earlier in the morning before clearing staff arrive, or later in the morning after the rush hour for pedestrian and bus traffic.

NYC Audubon must continue to work with building owners and tenants, especially at sites with high collision risk, to reduce bird deaths and feasible solutions to collisions, including ‘bird friendly’ glass, must be made available. NYC Audubon is working on several important projects, including the Bird-Safe Glass Foundation, NJ Audubon, and Fordham University to test ‘bird friendly’ glass.

Acknowledgments & References

PSF monitoring protocol requires that patrols start no earlier than dawn and be completed by 10:00 am. The majority of monitoring takes place between 7:30 and 9:00 am, when most monitors are on their way to work (Fig 3). However, to analyze the likelihood of finding a bird during any given half-hour period in the morning, we standardized the number of hours found during that half hour time by the total number of patrols conducted during that time. That is, if there were four patrols at 7:00 and four at 9:00, then we divided the number of birds found during 7:00—7:30 am by 4, 7:30—8:00 am by 4, and 8:00—9:00 am by 4. If there were four patrols at that time and two birds found, the number would be 0.5 or 50%. We found that the patrols conducted between 5:30 and 9:00 and between 10:30 and 11:30, on average, were more likely to result in finding birds than patrols conducted at other times during the day (Fig 3). The persistence study was conducted using tagged, dead birds at four sites along one route (Bryant Park West). Most birds (83%) were never recovered; 35% were found by monitoring, 60% lost, and 65% were recovered by NYSCA staff (Fig 9). Additional observations are needed to determine how many actually happened to the birds. The persistence study was conducted using tagged, dead birds at four sites along one route (Bryant Park West). Most birds (83%) were never recovered; 35% were found by monitoring, 60% lost, and 65% were recovered by NYSCA staff (Fig 9). Additional observations are needed to determine how many actually happened to the birds.

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