"USE CAUTION, BIRDS IN VICINTY"
Wildlife Hazards and Business Aviation:
What Can Be Done To Mitigate Bird/Wildlife Strikes in Aviation

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"I do not believe we should accept the status quo when we know from this accident and the US Airways flight 1549 public hearing that the bird strike exposure is increasing"
The Honorable Kathryn O'Leary Higgins, NTSB Board Member
Commenting on the Crash of Cessna 500, Oklahoma City, Oklahoma

"USE CAUTION, BIRDS IN VICINITY"; If you have flown as a pilot in the last few years, you have most likely heard this warning on the ATIS at almost all large airports in the US. But what does it mean to us as professional aviators? What can be done to reduce the risk, and how do we really "use caution"? We have identified almost all hazards to aviation, and have reduced the associated risk such that it continues to be the safest form of transportation. But what about the bird/wildlife strike hazard and the risk it poses to safe aviation operations? Has this risk been significantly reduced commensurately over the last decades of aviation? Due primarily to conservation efforts, we have seen a significant increase increase in birds and wildlife populations in North America and Worldwide. This combined with record numbers of aircraft movements has increased the potential hazards to aviation. But what has been done to reduce the risk? Is a commonly ignored "crying wolf" ATIS warning enough? Reported bird/wildlife strikes events have increased in the US significantly over the last decades, but the number of damaging strikes has decreased and continues to account for a low percentage of those strikes. I would argue we have entered a state of normalized deviance. Bird/Wildlife strikes are not a problem; until they are.

At first glance it would seem as if business aviation professionals can do little except for short-notice tactical actions to prevent bird/wildlife strikes (i.e. Maneuver to avoid a strike). But there are resources available that can help to alleviate the hazards and mitigate the risk associated with bird/wildlife strikes. During the Bombardier Safety Standdown, I will expound on programs and procedures available to better evaluate bird/wildlife hazards, ultimately mitigating the risk of incurring a bird/wildlife strike.

Two bird/wildlife strike mishaps highlight the dangers associated with bird/wildlife strikes: a Cessna CE-500 Citation in 2008 near Oklahoma City, Oklahoma and the USAir Airbus A-320 in 2009 into the Hudson River. Both accidents had encounters with large birds that resulted in a hull loss, but they culminated in much different ways. The NTSB concluded the Citation accident "resulted from wing structure damage sustained during an in-flight collision with a flock of American white pelicans, which far exceeded the

airframe's design certification limit."[1] USAir flight 1549 ditched into the Hudson River due to "(t)he ingestion of large birds into each engine, which resulted in an almost total loss of thrust in both engines."[2] Both these accidents continue to cause passenger fear and unwarranted front-page attention to the plight of birds/wildlife and aviation safety. But most of all, these mishaps provide a wealth of information to educate aviators on the hazards of bird/wildlife strikes and help reduce the risk of such future mishaps.

Based on lessons learned from these accidents, information available from other sources, understanding aircraft design and the reasoning behind these standards can be extremely useful in understanding the hazards and reducing the associated risk. I suggest that if you have to fly at low altitudes then you should fly slowly because of multiple factors; namely, physics, your airplane design, and because of bird/wildlife behavior, you are more likely to encounter greater concentrations of birds at lower altitudes. I will explain the bird/wildlife control programs in effect at most airports and the efforts that go into keeping their bird/wildlife risk low. Most importantly, I hope to emphasize the significance of reporting, and present tools available to aircrews, dispatchers, and maintainers to help reduce the risk of incurring a bird/wildlife strike, and reducing the risk of damage should it occur.

I look forward to seeing all safety conscious aviation professional at Bombardier Safety Standdown, and sharing knowledge to continue to make aviation safer for all.

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[1] National Transportation Safety Board. 2009. "Aircraft Accident Report: Crash of Cessna 500, N113SH, Following an In-Flight Collision with Large Birds, Oklahoma City, Oklahoma, March 4, 2008." Aircraft Accident Report NTSB/AAR-09/05. Washington, DC, page 11

[2] National Transportation Safety Board , Accident Database, "NTSB Identification: DCA09MA026. Scheduled 14 CFR Part 121: Air Carrier operation of US AIRWAYS INC. Accident occurred Thursday, January 15, 2009 in Weehawken, NJ", May 28, 2010.