

## **Keynote Address**

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Good morning and welcome to the 2019 North American Bird Strike Conference. I'd like to thank Gary Searing, the Bird Strike Association of Canada and the Bird Strike Committee USA, for the opportunity to speak to you today.

On behalf of Air Canada, I would also like to welcome you to the beautiful province of Nova Scotia, a province rich in maritime history, and the birthplace of Canadian aviation. The first powered flight in Canada took place 275 km (170 miles) from here, in Baddeck, Cape Breton Island, in 1909. This was also the first powered flight, in what was then the British Empire. Much like the first powered flight by the Wright brothers at Kitty Hawk, 6 years earlier, Canada's first powered flight was relatively short by today's standards. Taking off from the frozen surface of Lake Bras d'Or, the Silver Dart flew for approximately 1 kilometer (1100 yards), 6 meters (6.5 yards) above the ground at the then unimaginable speed of 65 kilometers per hour (40 MPH). Not only was this Canada's first powered flight, it was yet another important building block in the relationship between Canada and the United States of America as the Silver Dart was a derivative of an aircraft, designed and built by a joint Canadian/American team, including American aviation pioneer, Glenn Curtis, under the guidance of the famed inventor, Alexander Graham Bell.

Wilbur Wright is generally accepted to be the first person to report an aviation related bird strike. This took place in 1905 while Mr. Wright was reportedly "chasing" a flock of birds over the cornfields of Dayton, Ohio. Calbraith Perry Rodgers holds the unfortunate distinction of being the first

recorded fatality of a bird strike in 1912, while piloting a Wright Model EX. A tragic end to the life of an aviation pioneer, who should be remembered as the first person to fly across country from Long Island, New York to Long Beach, California.

We have no record of when or where the first bird strike occurred in Canada but the wildlife challenges we face North of the 49th Parallel are similar to those experienced in commercial aviation in the U.S. and around the world. Of course, we have greater threats here in Canada – I understand the 2-3 pound mosquitos are causing issues this year on the prairies – I can't imagine what harm the big ones might be doing!

With commercial aviation growing at a rate of 100% every 15 years, it is imperative that government agencies at all levels, the aviation community, including airport authorities, ATC, conservation groups, wildlife management experts and airlines, work together if we are to be successful in ensuring that the increased levels of traffic do not result in an ever-increasing number of wildlife strikes. From an airline perspective, there is a legitimate expectation that the airports where we operate, have a wildlife management plan that is appropriate for the size of the operation and addresses specific local wildlife threats and environmental issues.

We understand that many airports face significant wildlife management challenges due to their geographic locations, environmental and conservation concerns and regulations, and a myriad of governmental agencies and lobbying groups

who have competing priorities which are not adequately balance with the safety of the travelling public.

While Air Canada has experienced several significant bird strike events over the years, we have not yet elected to seek compensation, despite the significant costs we have incurred. Rather, we seek to understand the causes and see appropriate corrective actions developed and implemented. One such event in 2009, involved a Boeing 777 – 300 which encountered a flock of approximately 25 to 50 Canada Geese while on short final. While the crew were able to initiate a go-around and landed safely, between 6 and 10 of these large birds were ingested by both engines or struck the wings of the aircraft. Although the aircraft landed safely, with no injury to passengers and crew, the resultant damage was such that both engines were deemed to be beyond repair and required replacement. In addition to the engine damage, extensive repairs were required to the right-hand wing, prior to the aircraft's return to service. The repair and out of service costs of this event were in-excess of \$2,500,000. In response to this event, the airport authority conducted a complete review of their wildlife management plan, which was at the time, compliant with Transport Canada regulations. Air Canada was invited to review this process, which gave us a better understanding of the challenges faced by airport authorities and confirmation that despite some minor deficiencies, the airport authority had been doing everything they could to mitigate the risk of such a strike happening.

We understand that it is currently not possible to prevent all wildlife strikes and that to a certain extent, minor events are inevitable and for want of a better term, the cost of doing business. We also understand that it is a significant challenge for airport

necessarily conducive to solutions which authorities and their associated wildlife management teams to provide airlines with information on every strike encountered within their area of responsibility.

While we do not reach out for information on every strike, we do ask for wildlife management reports on any significant strike. Our safety department has an excellent relationship with airport authorities across Canada and we are happy to cooperate by sharing information regarding bird strikes and wildlife management in general. The ability of the various airport authorities to control wildlife is limited by municipal, provincial and federal regulations as well as influence by high profile conservation groups. The provinces themselves have limited options with respect to wildlife management due to federal legislation by bodies such as Environment Canada and the Canadian Wildlife Service. It is understood that while the provinces are restricted by federal legislation, Canada is itself bound by international conventions and treaties which limit the federal government's ability to manage populations of large waterfowl such as the Snow Goose, which breed in Alaska and Siberia but migrate through and over winter in areas of Canada where they conflict with aviation. This requires international cooperation at the federal government level to ensure management of certain species that pose a higher level of risk to aviation. While Air Canada is sensitive to and is supportive of Canada's environmental responsibilities and the role that Canada plays in global conservation, we remain concerned that conservation efforts on a federal level need to be kept in balance with the safety of aviation.

We urge Transport Canada to continue working closely with the other federal departments such as Environment Canada and the Canadian Wildlife Service to ensure

that the interests of commercial aviation, the global aviation community and the safety of passengers are given the highest possible priority. As well as keeping an eye on our wildlife related events, throughout our operation, we do try to remain informed about existing and emerging wildlife management technology and methodology. In the past, Air Canada has been approached to either endorse or provide support to emerging or existing technologies, such as avian radar (we understand many birds are not supportive of this technology and refuse the installation of the radar). While we encourage industry and airport authorities to continue to research, develop and implement new technologies and techniques to improve wildlife management effectiveness, it is not our role, nor are we expert enough, to endorse or promote specific products. That said, we are supportive of any initiative(s) taken to improve the levels of safety.

Our crews are advised to report wildlife strikes to the appropriate ATC facility, and the safety reports that our crews submit to us, confirm that they are doing this, providing they are aware that a strike has taken place, which isn't always the case. In discussions with airport authorities, regarding wildlife strikes, we do often hear that the information provided to ATC by our crews, regarding a strike or observed wildlife hazard, is not passed on to the appropriate office in a timely fashion or sometimes not at all. As an airline, we believe that ATC agencies, such as NAVCAN and the FAA, need to be at the center of all wildlife communications with flight crews and airport authorities and it is hoped that this would include relaying information gained from technologies such as avian radar to arriving and departing flights. For our part, we provide our flight crews with guidance on how to respond to wildlife related threats. This guidance is based on industry best practices, such as:

requesting up to date wildlife activity reports from ATC when operating in areas with increased levels wildlife activity whether that is based on crew observations, ATIS or NOTAMS, the use of NADP1 departure procedures which result in a higher rate of climb at lower speeds, including wildlife considerations during threat briefings prior to take-off as high speed rejected take-offs may increase the risk more than continuing with the take-off, requiring our crews to restrict airspeed to 250 knots, below 10,000 feet and, on approach, when landing is assured, consider flying through birds, rather than executing a "go-around" as higher thrust settings increase the potential for engine damage.

We communicate our concerns with airport authorities and participate in airport wildlife management meetings where appropriate. The Greater Toronto Airports Authority monthly wildlife management meeting is one example, but we would be interested in being involved with other airport authorities where the frequency of our operations is of a high enough level to substantiate our involvement. Our involvement in such meetings isn't simply an information gathering exercise. We believe that we too have responsibilities as airport tenants, to ensure that our facilities and those of our contracted service providers, do not cause or contribute to the wildlife management challenges faced by the airport authorities. As an example, after being made aware that the facilities of one of our contracted catering suppliers was attracting rodents, raccoons and birds, Air Canada, relayed expectations that they take corrective actions, which they did.

From an environmental aspect, we do understand that there are year to year fluctuations or variances in the numbers and types of wildlife present at any given location and that a particularly wet spring, such as the one we have just experienced in

many parts of Canada, will result in an increase in aircraft/wildlife incidents, put a strain on airport wildlife management resources and test the appropriateness of wildlife management plans. Undoubtedly, climate change has, and will continue to have, an impact on the numbers and types of wildlife threats we are faced within Canada, the United States and around the world. This is an area where airlines, including Air Canada, can and are contributing.

Over the past decade, Air Canada has invested over \$12 billion in new aircraft, resulting in a fleet that is 44% more fuel efficient than it was in 1990. In fact, since 2012 we have achieved a 3% annual fuel efficiency improvement, doubling the IATA industry target of 1.5% per year.

Important to our success in all our environmental efforts has been effectively working with others. Air Canada has long been a full supporter of domestic strategies to reduce Green House Gases (GSGs). For example, in 2005, through a national industry association, Air Canada and other Canadian carriers signed on for the world's first voluntary agreement to reduce GHG emissions by airlines. Subsequent to this, in 2012 Air Canada signed Canada's Action Plan to Reduce GHG Emissions from Aviation with the Federal Government and other key aviation stakeholders. Air Canada was also one of the first airlines in North America to adopt an Environmental Management System (EMS) based on ISO 14001. In 2017, we chose to pursue a certified Environmental Management System through the IATA IEnvA system, achieving Stage 1 Certification in 2018.

One area where cooperation and partnerships have been particularly fruitful has been in the research and development of alternative fuels. We operated our first biofuel flight in 2012. We did so as part of an aviation industry demonstration timed to

coincide with the Rio +20 UN sustainable development conference, and we have operated a number of biofuel flights since then. This includes five flights we operated in 2017 for the Canadian National Research Council to better understand the role that biofuel can play in minimizing the formation of contrails. As a result of this and many, many other efforts, Air Canada was named Eco Airline of the Year for 2018 by Air Transport World.

So, while airlines can actively contribute by addressing environmental issues, such as GHGs, that directly affect climate change, we look to government agencies, the airport authorities and the wildlife management industry to continue to provide assurance that everything that can be done, is being done to assure the safety of the travelling public. Air Canada, as the nations flag carrier, does have the ability to influence and we can help by lending our voice at venues such as the National Airlines Council of Canada, which includes representation from Transport Canada, NAV Canada and the Canadian Airports Council.

So, I have spoken to you for the past 20 minutes and offered some insights to Canada, Air Canada and our objectives. We believe we are actively supporting efforts to reduce and eliminate threats to aviation and wildlife through our programs but like all enterprises, it is easy to see one perspective and miss the wider view. To this end, let me make this interactive at this point and give you the floor. I am curious:

- what actions would you like to see from Air Canada and other airlines to address the associated risks concerning wildlife management
- what are we doing well that needs to be expanded
- what is not working well, in your view, and what steps should we take to address your concerns

- how do we assist when we have wildlife encounters – do you need remains, DNA work, other materials and inputs
- what can we, as a collective team, do to address this challenge, fly safely and protect our wildlife?

Ladies and gentlemen, it has been an honor to meet with you and to have the opportunity to represent Air Canada and address wildlife issues with such a professional group. I wish you well in the conference and I look forward to any input or feedback you might wish to offer. Thank you.