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The North American Canada Goose population is growing significantly, in large part because of a near-exponential increase in the number of temperate-breeding geese. A study was conducted to assess whether the associated risks to aviation in the Greater Toronto Area (GTA) are being managed appropriately and effectively. The GTA is the location of numerous airports, including Toronto Pearson International Airport, Canada's busiest. It also features habitat that is particularly attractive to temperate-breeding geese. A risk-based framework was developed using avifauna and operational information, that when applied, illustrated that land-use by non-aviation stakeholders, and in particular the municipalities, contributed significantly to the aviation risk associated with Canada Geese. The study concluded that the aviation safety-risks in the GTA are not being managed so as to reduce the aviation risks to levels that are as low as reasonably achievable. The need to significantly modify the individual and collective policies, procedures and practices of numerous aviation and non-aviation stakeholders was highlighted. Two federal government departments, one provincial ministry, numerous municipal governments – including the City of Toronto - four airports and numerous commercial enterprises were implicated. Nevertheless, it was concluded that the aggressive adoption of a system safety approach could reduce the level of aviation risk and yield efficiencies in resource expenditure. Many of the municipalities currently operate goose management plans, but they do so with little or no coordination, and almost universally with no consideration for the related aviation risks. The system safety approach would enable the potential risks to be identified, verified and assessed; mitigating activities planned, coordinated, implemented and evaluated; information shared; and where necessary, activities re-directed. The findings – based on a pressing aviation safety imperative – will challenge GTA aviation and non-aviation stakeholders alike to work together to manage wildlife hazards as never before.

(16) NOT AT OUR AIRPORT: A PLANNER'S APPROACH TO INTEGRATED WILDLIFE MANAGEMENT

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Approximately nine miles from the Chesapeake Bay and near the Atlantic flyway, BWI Airport has faced its share of wildlife challenges. MAA has learned that although much of the published guidance in FAA advisory circulars and manuals can prove helpful in providing airport operators with advice about the conditions that attract wildlife, the guidance often provides only retrofit solutions or strategies for removing habituated wildlife populations and their habitats. Rarely does it provide solutions for implementing strategies throughout the airport or strategies for preventing the creation of wildlife attractions in the first place. During the past five years, MAA's Environmental Planning Division has developed a proactive, programmatic approach to preventing and eliminating wildlife attractions airport-wide through the cooperation of nearly every airport division and the involvement of its design consultants. In its presentation, MAA's Environmental Planning Manager will discuss how MAA's integrated wildlife management strategies have become an inherent part of the facilities planning process. The presentation will include MAA's efforts to prepare resource management plans to identify potentially hazardous

conditions; educate regulators about potential wildlife hazards associated with an aviation environment and special permitting considerations; educate design consultants through the creation of design guidance and adaptation of technical specifications to address wildlife hazard management during project design; review engineering and construction documents at each design milestone to eliminate potential wildlife attractions; provide environmental oversight to apply wildlife hazard management strategies throughout the construction process; and educate tenants about wildlife attractions through the use of Tenant Directives in leases. The presentation will describe the challenges and successes in developing an interdisciplinary program. It will include the contents and implementation of its technical guidance for design and engineering consultants, and MAA's ongoing efforts to provide strategic hazard management strategies through inter-departmental policies and procedures that apply to nearly every aspect of airport operations.

(17) **MANAGING OFF-SITE WILDLIFE HAZARDS IN YOUR AIRPORT NEIGHBORHOOD (OR MR. ROGERS MEETS THE FAA)**

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FAA Advisory Circular (AC) 150/5200-33, "Hazardous Wildlife Attractants on or Near Airports," states that "Airport operators should be aware of proposed land use changes, or modification of existing land uses, that could create hazardous wildlife attractants within the separations identified in the siting criteria." This responsibility can pose challenges to airport operators for many reasons: site-specific evaluation criteria are not available from FAA; the surrounding area may include jurisdictions in which airport operators have little influence; and sufficient resources may not be available to identify, track, and evaluate proposed development for its potential to create wildlife hazards. The Maryland Aviation Administration (MAA) has seized upon the aggressive development that has occurred in the area surrounding Baltimore/Washington International Airport (BWI), and has addressed this development as an opportunity to pioneer efforts in off-site wildlife management. The presentation will document MAA's multi-faceted approach to develop a streamlined wildlife hazard review process with local planning departments and State permitting agencies. MAA will describe how it reviewed existing federal, state, and local legislation and policies to identify the limitations of its influence on nearby land use, and how it has enhanced its role to actively participate in the design review and permit approval processes performed by local jurisdictions. MAA will present two case studies: one will describe MAA's approach to reviewing and influencing landscaping decisions associated with the development of a new shopping mall; the second will present the special guidance and criteria MAA developed for use by County Planning Officials and permitting agencies when reviewing proposed development within the Airport Zone. The presentation will also disclose the challenges that MAA has faced, such as: outcries from the development community; expenses involved in developing and implementing the wildlife hazard review process; and the need to allocate specific budgets and resources to evaluate plans promptly.

(18) **MARYLAND AVIATION ADMINISTRATION'S APPROACH TO STORMWATER MANAGEMENT**