

# **A PRACTICAL APPROACH TO MANAGING THE FLYING-FOX HAZARD AT A TROPICAL AUSTRALIAN AIRPORT: AN EXAMPLE OF SUCCESSFUL PROACTIVE RISK MANAGEMENT**

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## **ABSTRACT**

Flying-foxes are highly mobile, colonial and frugivorous mammals that weigh up to 1.5 kg and fly at low altitudes, sometimes in “clouds” of thousands. They are distributed across equatorial and subtropical zones where their nocturnal flight patterns vary in response to flowering and fruiting plants. In general, and perhaps especially in Australia, flying-foxes are becoming more urbanised. They may commute up to 50km in a single night in search of food. In Australia, flying-foxes rank fourth on the list of serious wildlife hazards to Australian aircraft. Reported flying-fox strikes have increased seven-fold over the last ten years and they currently represent 5% of all wildlife strikes at Australian airports. Their strike rate increases linearly with decreasing airport latitude. Overall, 25% of flying-fox strikes result in damage to aircraft. Of this, 14% have an “effect on planned flight”. Flying-foxes are a particularly difficult hazard to manage when camps (daytime colonies) and feeding areas are positioned on either side of an airport, often with no attraction at the airport itself.

Cairns International Airport, in tropical north-east Australia, typically has a least three flying-fox camps within an 8 kilometre radius at any point in time. These urban flying-fox camps collectively comprise a population exceeding 40 000 animals. Flying-foxes accounted for 9.4% (92 strikes) of reported strikes at Cairns International Airport between 1993 and September 2008: thirteen percent of these were multiple strikes, and 3.3% resulted in aircraft damage. In March 2007, Cairns International Airport commissioned a long-term monitoring program to determine flying-fox transit patterns across the aerodrome and identify high strike risk periods. Preliminary results show that flying-fox transit patterns correlate with civil twilight and strike risk increases when native *Melalueca* species are flowering. Here we present an interim flying-fox management strategy to reduce strike risk that is based on these early results. Effective management of flying-foxes is particularly challenging as they are nocturnal, unpredictable and difficult to disperse from established roosting and feeding sites. Risk management, requires a systematic approach with the coordination of on-ground resources, rapid dissemination of information and good communications. Formal communication protocols such as NOTAMS and INTAMS are of particular importance as they provide real-time risk status updates to pilots and Air Traffic Control. To date there has been no increase in the flying-fox strike rate at Cairns International Airport.