9-2011

Birds in the Vicinity of the Airport

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Birds will continue to be a hazard to aircraft operations until one or the other stops flying. Not a likely scenario. Aircraft continue to have encounters with birds despite the best efforts of airport staff everywhere. Experts have found ways to reduce available habitat, identify roosting areas, use radar to track movement and analyze DNA to identify the species being struck, but risks remain. The problem with the current system is people taking the risks, the aircrew and owners, have the least amount of information available to make an accurate risk decision.

Tune in the ATIS at almost any civil airfield and you will hear the weather, some local NOTAMs and that there are "birds in the vicinity of the airport". This last statement provides no actionable information to a flight crew. It is therefore impossible for a flight crew to properly assess the risk posed by the birds. Imagine tuning in the traffic report on your commute to work and hearing the announcer say, "Vehicles in the vicinity of the city". How much help is that for your commute? Are there thousands of cars on the road and traffic is backed up everywhere or are there only a few vehicles around and it's smooth sailing? The information given makes it difficult to determine which route to take or if you should even attempt the drive at all. There just aren't enough details to make a decision. This is exactly the position flight crews are placed in every day.

The current advisory statement about bird activity is vague and fails to provide an accurate indication of the risk posed by current bird activity. Are there only a few birds sitting on the perimeter fence (low risk), or is an entire flock gathered around the approach end of the runway (high risk). This information is crucial to the pilot. In order to make an informed decision on a course of action the pilot needs accurate information on the potential risk. A better system to inform aircrews of the risk associated with bird activity needs to be implemented.

The U.S. Air Force uses a Bird Watch Condition (BWC) code to alert flight crews of hazards created by bird activity at the airfield. The different codes have specific meanings and associated risk. The following is an excerpt from AFI 91-202[1]:

> SEVERE. Wildlife activity on or immediately above the active runway or other specific location representing high potential for strikes. Supervision and aircrews must thoroughly evaluate mission need before conducting operations in areas under condition SEVERE.
>
> MODERATE. Wildlife activity near the active runway or other specific location representing increased potential for strikes. BWC MODERATE requires increased vigilance by all agencies and supervisors and caution by aircrews.
>
> LOW. Wildlife activity on and around the airfield representing low potential for strikes.

These definitions could serve as either a template or a point of departure to develop a standard BWC for all airports.

NATO has also developed a standard warning scale to help aircrews assess the risk of a bird strike. These warnings are known as BIRDTAMs[2]. According to NATO STANAG 3879 a BIRDTAM will be sent during bird migration season and anytime the intensity is 5 or greater[3]. BIRDTAMs are available via the internet to any aircrew flying in the coverage area.

Creation of a standard BWC will have the added benefit of allowing companies, through their Safety Management System (SMS), to determine the risk they are willing to accept. Companies can dictate what actions a flight crew should take based on the risk associated with each BWC in their operations manual. Using SMS, a company can further delineated crew actions based on the type of flight; a company executing an emergency air evacuation flight may be willing to accept more risk than a company performing a transportation flight. Publishing the

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[1] AFI 91-202 *The US Air Force Mishap Prevention Program*, 5 August 2011
[2] NATO STANAG 3879 (Edition 7) *Birdstrike Risk/Warning Procedures (Europe)* 5 June 2007
[3] NATO STANAG 3879 (Edition 7) *Birdstrike Risk/Warning Procedures (Europe)* 5 June 2007

expected actions for each BWC in the ops manual ensures the risk decision is made at the appropriate level, one of the basic tenets of Risk Management and SMS.

The technology to monitor bird movements is available making it possible to track movements in real time. The use of a bird radar system will provide the airport with an additional means to determine the BWC. By combining radar information with pilot reports and tower observations an accurate assessment of the bird strike risk can be made.

Levels for other hazards encountered in aviation such as icing, turbulence and braking action already exist. These levels allow the flight crew to make decisions based on the associated risks of each level. They also allow companies and manufactures to develop standards and restrictions based on the perceived level of risk. Development of a standard BWC is a logical extension to the hazard warnings available to flight crews.

A BWC should not be restrictive; it should be the decision of the pilot or company as to what action to take. If a pilot decides to land in BWC Severe and sustains damage from a bird strike they assumed the risk. It would be no different than a pilot choosing to land on a runway with the braking action reported as NIL and going off the end. They were provided with the information to make a risk decision and the airport should not be liable for what may prove to be a poor risk analysis.

The current advisory statement is outdated and needs to be changed. The technology is available to give a flight crew accurate data about the risk of a bird strike. Providing a standard advisory system will allow pilots and companies to make an informed decision on the amount of risk they would like to take. Aviation will remain risky, but it is possible to reduce the risk with the right information.

References:

1. AFI 91-202 *The US Air Force Mishap Prevention Program*, 5 August 2011
2. NATO STANAG 3879 (Edition 7) *Birdstrike Risk/Warning Procedures (Europe),* 5 June 2007