

Wildlife & FOD Workshop

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Impact of Wildlife, Damage & Prevention

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- Birds' make-up 97% of the reported strikes, mammals about 3% and reptiles less than 1%. (FAA)
- *Do Birds can crash air planes?* unbelievable..! But yes. Its true.

There are cases in history where airplanes crashed because of a bird(or flock of birds).

People are mostly not aware of this fact that birds can crash a plane.



"Bird Strike": When a bird or flock of birds collides with an aircraft then it may be termed as *"Bird Strike..!"*

BIRD STRIKES

By the numbers

288: fatalities since 1988



27 *bird strikes a day*

39 **29,548**
% *bird strikes in the last three years*

of bird strikes are reported

10 LBS
WEIGHT OF ONE MALE CANADA GOOSE



\$600 million
in damage to U.S. aircraft each year

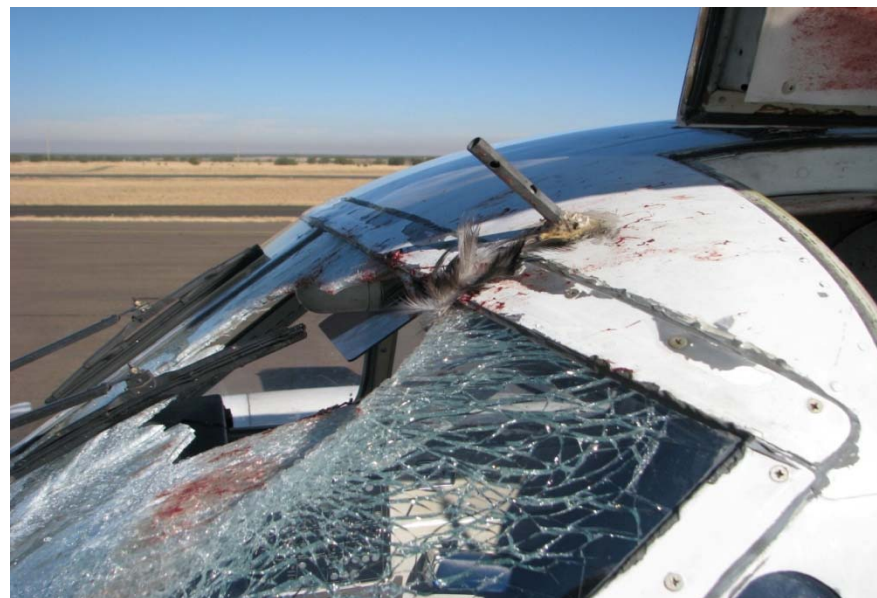
WEIGHT OF ONE AIRBUS A320 JETLINER:



172,000 LBS

Aircraft Strike Hazard.

- A Bird-Strike usually happens during take-off & landing.
- The crash occurs mostly when birds hit the *wind screen* or when *ingested into the engines*.
- The resulting damage causes loss of human life & heavy financial loss for Operators.



- When the birds get ingested into the engines, the blades of the turbine breaks away, (as the turbine blades rotate at very high speed to produce sufficient power), leading to fire and *engine failure*.



- Partial or complete loss of control may be the secondary result of either small aircraft structural impact or large aircraft jet engine ingestion. Complete Engine failure or serious power loss, even on only one engine, may be critical during the take-off phase.



- Loss of flight instrument function can be caused by impact effects on the Pitot Static System air intakes which can cause dependent instrument readings to become erroneous.
- Some times the bird may hit the wings or the Stabilizers, flaps, or even the nose part of the aircraft.
- A Bird Strike is mostly witnessed when birds *migrate* during seasons change.
- The open places near airports attract the birds which migrate in flocks.



Principles of Effective Risk Management



- The most important element in risk management strategy, is knowing the nature of the (unmanaged) hazard.
- This may vary by time of day and seasonally and must be related to the likely pattern of aircraft movements.
- Once a risk management plan is in place, it must be recognized that it is still necessary to monitor proactively for any detectable change.
- As with all risk management, an SMS approach to risk management is essential. The activity must be founded on accountability, co-operation between stakeholders, proper documentation and an effective review procedure.

Airline's Checklist for Bird Strike Hazard Management



- Have an access to up to date bird strike rates for each airport used.
- To ensure that flight crew is properly informed about known bird hazards which may affect them before commencing their flights, whether such information is published in AIPs or NOTAMs.
- To ensure that flight crew is provided with appropriate guidance on response to the hazard.
- Particular attention should be given to engine ingestion for both the short final case (do not attempt a go around) and the take off roll case (do not attempt a rejected take off at high speed unless it is positively assessed that it is unlikely that it will be possible to get safely airborne.)

- A Reporting culture which encourage flight crew entry in the aircraft Technical Log after any such occurrence.
- To ensure that flight crew makes reports on all actual or suspected bird strikes that could have been hazardous, when reporting actual or suspected engine ingestion of birds, they record any observed engine thrust or torque fluctuations which might have been associated with an ingestion event.
- Even if there are no applicable ATC speed restrictions, apply a Company Maximum Speed below 50 KIAS for both climb and descent.



- When flock of birds ahead on final approach, the greater the engine thrust, the greater the damage caused by ingesting birds - it is probable that less damage will be caused if the birds are hit while the engines are at low speed or idle.



Next time you fly think of our
feathered friends



Thank you