

## **How dangerous is the problem of a bird strike at the aerodrome?**

Bird strikes in the vicinity of airport territory might be a serious threat to flight safety. Birds can damage different aircraft parts and systems or injure passengers. In my opinion, especially dangerous are strikes with flocks of birds because the aircraft may get a multiple/numerous/severe structural damage which can lead to accidents with fatality/human loss. Besides remains of the birds/dead birds on the RW can get into the engines and cause engine cut off/stall or fire. Bird strikes mainly happen during takeoffs and landings so it can lead to aborted takeoffs with possible skidding off the RW, missed approaches, traffic delays and schedule breakdown. On the other hand if after a bird strike operation is normal the pilot may decide to proceed to the destination and he really can reach it safely.

- **Why do birds inhabit airport territories?**

As a rule airports are located outside cities and towns near forests, rivers and lakes in large territories with a lot of grass. Such territories attract birds because they can easily find food, water and shelter for them. It's a good habitat/environment for birds (These are good conditions for birds to live). Besides birds may be attracted by nearby illegal rubbish dumps.

- **What aircraft parts are mostly damaged due to bird strikes? How serious may the damage be?**

Birds may strike aircraft fuselage, windscreen, extended gears and flaps, lights, wing and engines. Windshield can crack, so the crew might have poor view/visibility from the cockpit, besides glass and bird debris can injure pilots. Fan blades may be destroyed. Bird ingestion can cause fire or explosion.

- **What aircraft systems may suffer from bird strikes? What are the consequences?**

Due to bird strikes the crew may experience problems with a communication, navigational, hydraulic, air conditioning, pressurization and flight control systems. Pilots may face difficulties with breaks and steering during taxiing, it can lead to RW excursion. Pressurization system problem may be the reason for rapid decompression And finally a pilot can lose control of the aircraft.

- **What should the crew consider if flock of birds are reported or observed near the RW?**

The crew should realize/understand if a flock of birds is a threat for flight safety or not. If yes, and the flock of birds is on his flight route the pilot should request to organize/arrange a bird scaring procedure.

- **What are pilots actions after they detect or obtain information about a bird strike?**

In case of bird strike detection a pilot should inform the controller about it. After a bird strike the pilot may abandon takeoff or immediately return to land. Also he may proceed for landing at the next suitable aerodrome or to the destination if the aircraft performance is safe.

- **How can a controller assist a pilot in case of information about a bird strike?**

The controller should follow Euro-control principle to assist.

The best Euro-control principle to ASSIST is:

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| <ul style="list-style-type: none"> <li>• <b>A 'Acknowledge' - S 'Separate' - S 'Silence' - I 'Inform' - S 'Support' - T 'Time'</b></li> </ul> |
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**A** - acknowledge the bird strike, ask for the crews' intentions and determine if the crew is able to control the aircraft;

**S** - separate the aircraft from other traffic, provide priority landing (allow long final if requested), keep the active runway clear of departures, arrivals and vehicles;

**S** – impose radio silence and use separate frequency where possible;

**I** - inform the airport emergency services and all concerned parties according to local procedures;

**S** - support the flight experiencing the consequences of the bird strike with any information requested and necessary (e.g. type of approach, runway length and aerodrome details, etc.);

**T** - provide time for the crew to assess the situation, don't press with non urgent matters.

If a bird strike happens on take-off or landing, the runway must be checked and cleaned.

- **Why is it necessary to check the RW in case of a suspected bird strike?**

A RW is a special place where aircraft land and takeoff from. So it's always must be clear from any debris and contamination. If there are some remains of birds on the RW they can be sucked/get into engines. Engines can catch fire, cutoff.

- **What services monitor the birds environment?**

I think it's responsibility of the ornithological service. They should watch over birds activity in the vicinity of the aerodrome and provide information to ATCOs of potential bird strikes.

- **What services are responsible for the bird situation at the airport?**

The aerodrome and ornithological services should keep the airport territories clear of birds.

- **What do you know about active and passive means to prevent birds at the aerodrome?**

As for active ways, I think, they should include effective bird scaring methods such as using of distress calls, flare guns, rockets, different loud pyrotechnics, green laser beams, traps, trained birds of prey, for example falcons or hawks and so on. Passive means are: grass, bushes and trees cutting, also removal of rubbish dumps.

- **What are the protective methods against bird strikes at the aerodrome?**

Aviation specialists should use radar and video equipment to see the position, the movement/direction of bird flocks. So they will be able to predict/understand birds' behavior and act correctly. Also to avoid a collision pilots may switch on landing lights and delay takeoff or landing in case of bird activity.

- **Have you ever had/heard of situation connected with a bird strike?**

Fortunately, I have never had such examples in my experience. But it's a typical problem for our area because we have lots of trees and bushes to one side of the RW. There are also two rivers nearby. It's a habitat of birds. So, from time to time we receive information from pilots about a bird activity in the vicinity or on their flight path. Then we solve the problem.