

'100 Years of Fatalities & Destroyed Civil Aircraft Due to Bird Strikes'

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The first fatal bird strike accident, a Century ago on 3rd April 1912, killed Cal Rogers at Long Beach California. A gull (*Larus sp.*) lodged in the flying controls.



Fatal Bird Strike Accidents since 1912:

- **Airliners & executive jets - 16 fatal accidents, 189 deaths including 7 on the ground, 44 aeroplanes destroyed**
- **Aeroplanes 5,700 kg and less - 32 fatal accidents, 69 deaths with 56 aeroplanes destroyed**
- **helicopters - 7 fatal accidents, 18 deaths and 8 destroyed helicopters**

Worst Accident for fatalities was the Lockheed Electra in October 1960 at Boston, USA which killed 62 after starlings (*Sturnus vulgaris*, 80 gm) were ingested in 3 of the engines

The worst jet accident was the Boeing 737 at Bahar Dar in Ethiopia in September 1988 when Speckled pigeons (*Columba guinea*, 320 gm) were ingested in both engines, 35 died

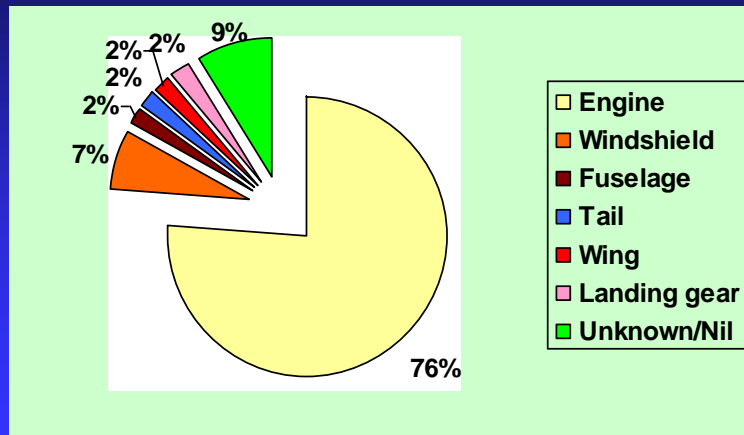
Remains of Boeing 737 at Bahar Dar, the pigeons were feeding on grass seeds growing in imported soil used to fill cable trenches



Kennedy Airport, New York November 1975. Gulls (*Larus sp.*) caused uncontained DC10 engine failure and fire, all on board were airline staff who escaped. Normal passengers?



Airliners & Executive Jets: Engine damage was the cause of 76% of accidents, followed by windshield at 7%



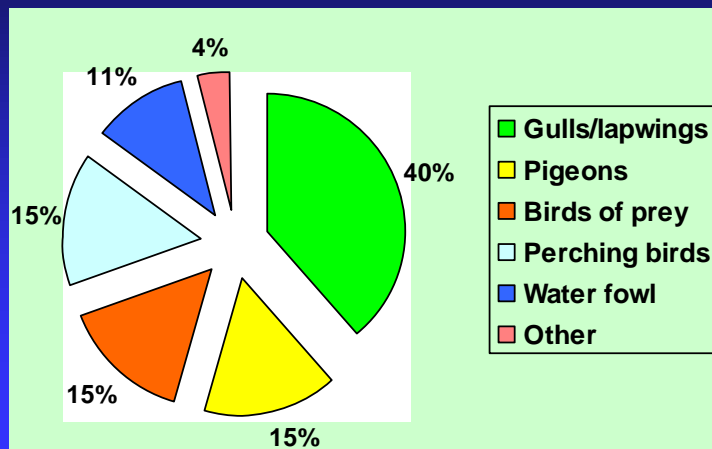
January 1995 Falcon 20 at Paris Le Bourget,
Lapwings (*Vanellus vanellus*) caused engine
1 fire. Bird controller had gone sick.



**December 2002 - Swearingen SA227
Metroliner Danish registered, at Aberdeen
UK. Herring, Common, BH gulls, some
remains in one engine**



**Airliners & Executive Jets:
Gulls/lapwings and pigeons were the major
causes followed by birds of prey**



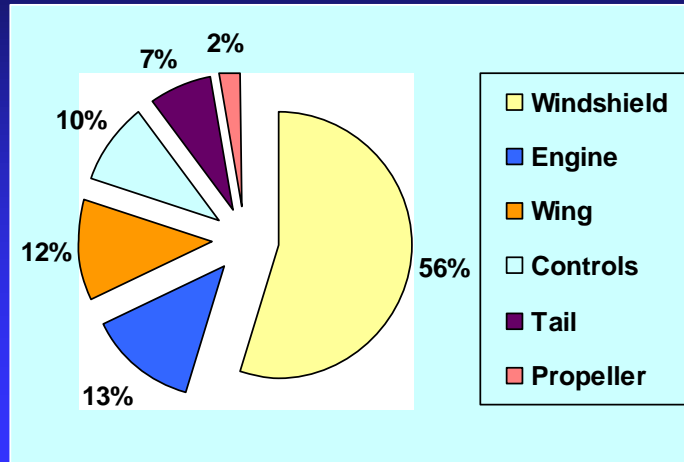
B737 Gossellies, Belgium April 1978 , & B747F at Brussels in April 2009 caused respectively by one woodpigeon and one Kestrel. T/O abandoned at too high a speed



November 2009, Boeing 737-800 ingested starlings (*sturnus vulgaris*) in both engines at 500 ft on finals to Rome Ciampino. Skillfully landed, one injury during evacuation.



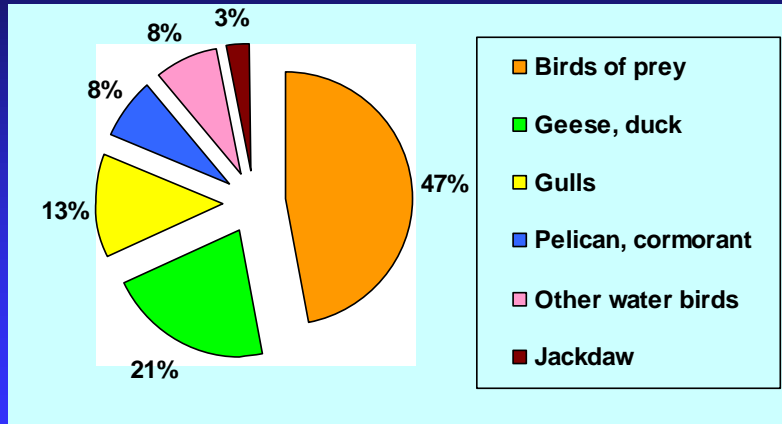
**Aeroplanes 5,700 kg and below:
Windshield damage was cause of 56% of the
accidents, followed by the engine at 13%**



**June 2008, Jabiru microlight nr Tavira,
Portugal, pilot attempted to avoid bird and
struck power lines and crashed, both
occupants had minor injuries**



**Aeroplanes 5,700 kg & below:
Birds of prey caused 47% of accidents,
followed by geese and ducks**



**Botswana September 2006 Cessna 206,
White backed vulture (*Gyps africanus*) holed
windshield, could not retain height due to
drag, force landed in swamp, all 5 occupants
escaped**



Helicopters

- Windshield holed in 50% of cases
- Heavy birds, raven (*Corvus Corax*), Black vulture (*Coragyps atratus*) and Red-tiled hawk (*Buteo jamaicensis*) were main cause
- Vibration after rotor system impact also featured

January 2000, Bell 407 Long Ranger nr. Panama City, windshield holed by Black vulture (*Coragyps atratus*), pilot knocked un-conscious.



Further points:

- Aircraft operating from airfields with little or no bird control measures are particularly vulnerable e.g. executive jets and Russian aircraft operating in 3rd world countries
- Most general aviation aeroplanes operate at low level where birds are most prevalent and in almost all cases are not required to have bird resistant windshields.

In Summary:

- For airliners and executive jets gulls in engines are still a major hazard that can be controlled by trained, dedicated aerodrome staff.
- For GA aircraft and helicopters large birds holing windshields are the major issue. Birds are hard to see and trying to avoid them has resulted in accidents. Better windshields may be an option.
- **COMPLACENCY IS THE ENEMY OF SAFETY** - the 'it will be alright' attitude.



Presented by *John Thorpe*



26 Sept 2005 - Boeing 777 at Chicago during go-around at about 300 ft and 150 kts, bird unknown

