

## BIRD STRIKE DATA FROM WORLD REGIONS

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### ABSTRACT

The Paper briefly summarises the main points from an analysis of data by world regions using the ICAO IBIS System 1986 to 1990. Although the sample sizes between regions varies from 204 in the Caribbean/South America Region to 6922 in the North American Region, some useful conclusions can be drawn. It should be noted that a total of 1310 engines were damaged and 3 aircraft destroyed.

(The Paper was presented at the ICAO Workshop on Bird Hazards, Santiago, Chile, 29 March - 2 April 1993.)

## SUMMARY OF DATA BY REGIONS FROM ICAO IBIS SYSTEM, 1986-1990

### Africa - 877 strikes

- There was little monthly variation, December (92) was marginally the worst month, June (63), July (65) and November (65) the best.
- Only 26% of birds are identified. Swallows (*Hirundinidae*) were the most frequently identified, 4.6%. The combination of all birds of prey accounted for 8.1% of strikes with the Black kite (*Milvus migrans*) as the most frequent.
- 72% of strikes are below 101 ft, but 5.5% are above 2501 ft.
- 34% of strikes were at night when aircraft movements can be very low. Lapwings (*Vanellus sp*) were the most frequent at night.
- 77% of birds struck were single birds.
- One aircraft was destroyed with fatalities, 99 engines were damaged.

### Asia and Pacific Regions - 4131 strikes

- April (495), May (482) and October (416) were significantly worse than other months, July (331) the best.
- 40% of birds were identified. Gulls (*Laridae*) were the worst species at 20%, followed by Kites (*Accipitradae*) at 15%. Gulls were at their worst from May to August, with a sharp decline in September. Kites (*Accipitradae*) were at their worst in October and less of a problem in November and December.
- Only 14% of strikes were at night, mainly Gulls (*Laridae*) and Plovers (*Charadriidae*).
- 67% of strikes were below 101 ft, 6.2% were above 2501 ft, Kites (*Accipitradae*) were a problem throughout the year.
- 80% of birds struck were single birds. The most frequent flocks were Gulls (*Laridae*) and Galahs (*Cacatua roseicapilla*).
- One aircraft was destroyed and 170 engines damaged. Kites (*Accipitradae*) were the major identified contributor to engine damage. There were 9 cases of minor injury, mostly through windshield penetration.

### Caribbean and South America - 204 strikes

- The worst months were November and December (27 each). The best January (10).
- 35% of birds were identified, the most frequently identified being the American black vulture (*Coragyps atratus*) and Gulls (*Laridae*) with 28% each.
- 16% of strikes were at night, none were American black vulture (*Coragyps atratus*).
- 59% of strikes were below 101 ft, 8% were over 2501 ft. Most of the American black vulture (*Coragyps atratus*) strikes were during the approach phase or above 1000 ft.
- 59% of strikes were single birds, Gulls (*Laridae*) were the most common flocks.
- One aircraft was destroyed, 26 engines damaged. There was one fatal accident and one minor injury.

**Middle East Region - 217 strikes**

- August (32) to November (37) were worst months, December (6) and January (9) the best.
- Only 26% of birds were identified, 36% of identified birds were Kites (*Accipitradae*), at their worst in August.
- 29% of strikes were at night. All Kite (*Accipitradae*) strikes were in daylight.
- 65% of strikes were below 101 ft, 13% were over 2501 ft.
- 79% of strikes were single birds, the flocks being mostly Gulls (*Laridae*).
- 32 engines were damaged and there was one case of minor injury.

**European Region - 9980 strikes**

- June (1427) to October (1117) are the worst months, February (378) the best. Gulls (*Laridae*) have a marked peak in August.
- 40% of bird species are identified, 49% are Gulls (*Laridae*), followed by Swifts/Swallows (*Hirundinidae*) at 21%.
- 14% of strikes are at night, mainly Lapwings (*Vanellus sp.*). Stringent noise regulations in Europe have reduced the number of night flights.
- 64% of strikes are below 101 ft, only 7% were above 2501 ft, mostly Swallows (*Hirundinidae*).
- 77% of birds struck were single birds, most of the flocks struck were Gulls (*Laridae*).
- 695 engines were damaged, of the known species 62% were due to Gulls (*Laridae*). There were 3 cases of minor injury.

**North Atlantic and North America - 6922 strikes**

- 47% of birds were identified, Gulls (*Laridae*) being 50% of identified strikes.
- August (1138) to October (1122) are the worst months, February (204) the best. Hawks (*Falconiformes*) have a major peak in August.
- 26% of strikes are at night, mainly Gulls (*Laridae*), Sparrows (*Fringillidae*), Ducks (*Anseriformes*) and Geese (*Anseriformes*).
- Only 53% of strikes were below 101 ft, less than in other regions. 12% of strikes were over 2501 ft, mainly Sparrows (*Fringillidae*), Herring gulls (*Larus argentatus*), Ducks (*Anseriformes*) and Geese (*Anseriformes*), the latter being heavy birds when aircraft speeds may be high.
- 73% of birds were single, the flocks of 11-100 birds were mostly Gulls (*Laridae*).
- 288 engines were damaged, mainly gulls followed by geese. There were 5 minor and one serious injuries.

Note: A total of 1310 engines were damaged and 3 aircraft destroyed.

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