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Birdstrikes in German Air Force 1968 - 1976

by

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During the period 1968 - 1976 GAF had a decreasing number of birdstrikes until 1971 but a highly increasing number 1976 and moreover 1977.

At take-off and landing there was to analyse a clear decreasing but a small increasing in 1974/1975. The reason for that is to see in the fact that all provisions for scaring birds from airfields coming in routine work are bad ; people involved with this negotiations should use all biological and technical possibilities; the most important point should be to regard the ecological background of the airfield.

At round airfield procedures the number of birdstrikes increased up to 62 (1976) mostly caused by the fact that there are no laws which allow to forbid garbadge dumps or new lakes in the near surrounding of the airfields. German Air Traffic Authorities are looking for corresponding laws which are in work now.

The most birdstrikes happened in low level between 400 and 1300 ft(GND), a very high number also between 1100 and 5000 ft(GND) - nearly 300 -.

Subdivided by months most birdstrikes happened in march/april (spring migration), july/august(inter-migration) and october (fall-migration). In wintertime birdstrikes were induced by winter-flight-movements from N and E depending on weather.

In spring and fall it seems possible to reduce birdstrikes by publishing birdtam and forecasts but only on condition that good radar-observation is available and possible. In summertime a reduction of birdstrikes seems difficult because birds are flying so low that radar observation is impossible. Only by using airfield radar with small range and high power it could be possible to observe birds and to warn

pilots; but there does not exist a method using such radar for bird observation.

As to the geographical areas : more than 60 % of birdstrikes happened in the northern regions of Germany. Flight- and low level planning of routes may be helpful to reduce strikes in sea- and coastal districts.

As to the bird species most strikes happened with gulls,small birds, buzzards,crows and lapwings. Subdivided into categories:

up to 100 g weight	= 31 %
101 - 250 g	= 10 %
251 - 500 g	= 35 %
501 - 1000 g	= 13 %
1001 - 1500 g	= 10 %
more than 1500 g	= 1 %

The number of damages decreased during the evaluation period.

As to the consequences : GAF gives the following recommendations for prevention of birdstrikes:

1. In Case pilot observes birds or flocks of birds in LL it is recommended to pull left or right in order to overfly swarms but it is to regard that swarms of birds may be confused by noise,radar or compressed air and show special reactions.
2. Coastal areas should be flown over vertical to coastal lines because of bird concentrations.
3. Using of visor to avoid injuries of face.
4. Switch on windscreen defroster to increase flexibility and resistance of cockpit against birdstrikes.
5. Reduce speed if possible in order to reduce dimension of damage in case of birdstrike.
6. Land on the next airfield in case of an observed birdstrike.
7. Cross lakes,rivers and larger water areas in heights above 2000 ft(GND).
8. Cross river valleys vertical; regard that strongest concentrations of migratory birds may be expected on slopes of mountains.
9. Regard birdtam which should be published in more detailled form.
10. Work up ecological reports about every airfield and propose special provisions according to these reports.

11. Control yearly sometimes the control areas of airfields in order to get informations about f.i.garbadge dumps and gravel lakes.

12. Induce a better radar and visual control of small distance bird movements in the approaches of airfield and develop procedures for pilots and ATC.

13. Check for flight planning whether it will be possible to fly missions in mountain areas during special periods of year.

14. Try to get informations about bird intensities in range areas by the Range Officer.

15. Regard that a small birdstrike risk exists in all flight heights during december,january and february, a medium risk in flight heights above 1000 ft(GND) between may and august and a heavy risk in flight heights between 1000 and 3000 ft(GND) in march as well as during september/october.

16. Regard that most bird species belong to weight category until 100 g; these birds will increase during migration periods and reach flight heights up to 8000 ft(GND),

- that buzzards,falcons,crows,pigeons,lapwings und gulls (weight category until 1000 g) dominate in agricultural and grassland areas and reach at small-distance flights heights up to 2000 ft(GND) depending on weather.
- that waterfowl(weight-category until 2000 g) dominate in coastal areas between october and march and may reach, during migration period, heights up to 10000 ft(GND).