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BIRD CONTROL AT HELSINKI-VANTAA AIRPORT IN I978-I98I

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Abstract

In the summer of I978 there were two bird strikes at Helsinki-Vantaa Airport that can be classified as serious. As a result a Bird Strike Committee was established at the airport, in which both the airport authority and ornithologists are represented. The committee has directed the bird control measures and studied in two separate reports bird occurance at the airport and at censusing places in its vicinity (2 dumps, 2 fur farms, 2 fields and a reservoir).

Bird control at the airport is performed by a bird patrol using a patrol vehicle with special equipment. In the first place, the patrol tries to disperse birds from runways, but if necessary, birds may also be shot. In addition to immediate control, we also try to reduce the numbers of birds at the airport by changing the environment so that it does not attract the species hazardous to air traffic.

The greatest problem has been caused be the herring gull, the common gull and the black-headed gull. To control these the ponds near the main runway have been covered with floating Leca gravel. In addition, gulls have been shot at the nearest dump and the availability of garbage at the dump has been reduced. Special attention has been paid to the herring gull. Its reproduction has been prevented every year in almost all colonies within 40 km from the airport. The bird control programme includes also covering fur farms with nets and the experiment for the elimination of earth worms on the runway sides.

Other problem species are primarily the black grouse and the lapwing. For the former species, the control measure adopted is dispersal from the traffic area, disturbance of display and thinning the near-by birches, for the latter, the measure adopted is generally dispersal from the runways only and prevention of nesting.

All species mentioned are considered as species in the I hazard category. In addition, the species belonging to the categories II-IV have been classified.

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BIRD CONTROL AT HELSINKI-VANTAA AIRPORT IN 1978-1981

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INTRODUCTION

In the summer of 1978 there were two bird strikes at Helsinki-Vantaa Airport classified as serious in which gulls caused engine damage to a DC-8 and a Super Caravelle aircraft the repair costs being about 250 000 dollars. As a result of these incidents it was considered necessary to establish a Bird Strike Committee at the airport in which both the airport authority and ornithologists would be represented. The Committee met for the first time on January 29th 1979, after which it has coordinated the bird control work and studied bird occurance at the airport and at censusing places in its vicinity (Figure 1). As the result of this, two extensive reports have been published (Kuusela 1980, Vickholm 1982) on the basis of which the following summary has been drawn.

BIRD PATROLLING

Bird patrolling at the airport has been continually intensified in the last three years. At the moment, the patrols consist mainly of unarmed servicemen who are bird enthusiasts. They have been called in and trained especially for this purpose so that their attitude to the work would be positive and their observations reliable. The patrol uses a jeep with dispersal equipment which from March 15th to November 15th patrols the movement area during daylight hours; for the rest of the year the patrolling is more limited. Primarily, the patrol tries to scare birds away from the runways, but if necessary it may also call in a shooter. Reports on the patrolling are made to the airport ornithologist who also is an unarmed serviceman and acts as the secretary in the Bird Strike Committee.

CONTROL MEASURES

The bird control measures are not only limited to dispersing

birds from the movement area, but from the very beginning we have tried to change the immediate environment in such a way that it will not attract the bird species most hazardous to air traffic. The major measures taken have been:

- Covering the ponds near the middle part of the main runway 04/22 attracting gulls with floating artificial Leca gravel. At the same time the ponds are being filled out completely.

- Cutting down birches favoured by the Black Grouse in the surroundings of the movement area. Pines have been planted instead.

In order to reduce the number of gulls in the surrounding regions of the airport the following measures have been taken in successful cooperation with the near-by towns:

- The maintenance of the dump about 4 kilometers northwest of the airport has been improved by transporting soil to the dump for covering the garbage. The gulls' attraction to the dump has been reduced by shooting Herring- and Black-Headed Gulls (which are unprotected in Finland) which is performed by a specially hired shooter and by the local hunting club daily from April to September in 1981.

- The reproduction of the Herring Gull has been restricted in the colonies of the archipelago of Helsinki and near-by cities. The method used has usually been the picking of eggs performed twice during incubation period. This way we have managed to reduce the production of flying young birds by about ten thousand birds annually.

Measures under planning:

- Covering a fur farm near the airport by wiring. This way the availability of feed at the fur farm for the Black-Headed Gull could be prevented and thus the occurance of the species in the area reduced.

- Experiments for the elimination of earth worms with Benomyl. It has been noticed that in the autumn earth worms on the runways attract the Black-Headed - and Common Gull in particular.

- Helsinki district garbage disposal plan and location of the garbage disposal plants in relation to the airport.

RESULTS AND CONCLUSIONS

To date, the control measures have most noticeably reduced the occurance of the Herring Gull at the airport. Hence the number of dispersed gulls in 1981 was a mere tenth of the number of the previous year (Figure 2), and no strikes were reported. A corresponding decrease was noted at the near-by dump where the Herring Gulls fly over the airport from the colonies at the coast. The measures have been nearly as effective on the Black-Headed Gull. But so far we have not

been able to control properly the autumn occurance of the Common Gull, because it is primarily a question of migrating flocks landing at the airport attracted by earth worms. It was a flock like this that on October 15th 1980 caused the latest dangerous incident at the airport by hitting a DC-10 in departure climb. In the autumn of that year the bird patrol was no longer operative in September, since we were not prepared for a new peak of the migration as late as October by the northern population of the species.

It is an important factor in effective bird control that we know the daily and seasonal rhythm of the occurance of each species at the airport as accurately as possible. The dispersals and other observations by the Helsinki-Vantaa airport bird patrol are therefore recorded for analysing. As an example, Figure 3 shows a diagram of the Black Grouse dispersals in 1981. Information like this helps in the planning of bird control strategies and in the performance of practical measures (e.g. disturbance of display and shooting old cocks) i.. the following year. By doing this we have e.g. learned to be prepared for shooting Lapwings and to disturbe the nesting attempts of the species during its main migration in the spring, because when scared away it often merely moves from one place to another in the movement area.

Basing on the experiences gained so far , all five species mentioned above can be considered to belong to hazard category I at Helsinki-Vantaa Airport. These species are under very close control, especially in certain periods (Figure 4). Bird species belonging to hazard categories II-IV (10, 7 and 38 species resp.) are listed in the Vickholm Report (1982).

In the years 1978-1981, the costs of bird control at Helsinki-Vantaa Airport were $ 110 000 in total, corresponding to $ 1.38 per movement and $ 1 700 per average yearly bird strike. The costs are about a third of the material damages caused by bird strikes at the airport in the corresponding period. There is no doubt that the control measures have made it possible that in 1981 no bird strikes causing damage were reported at the airport.

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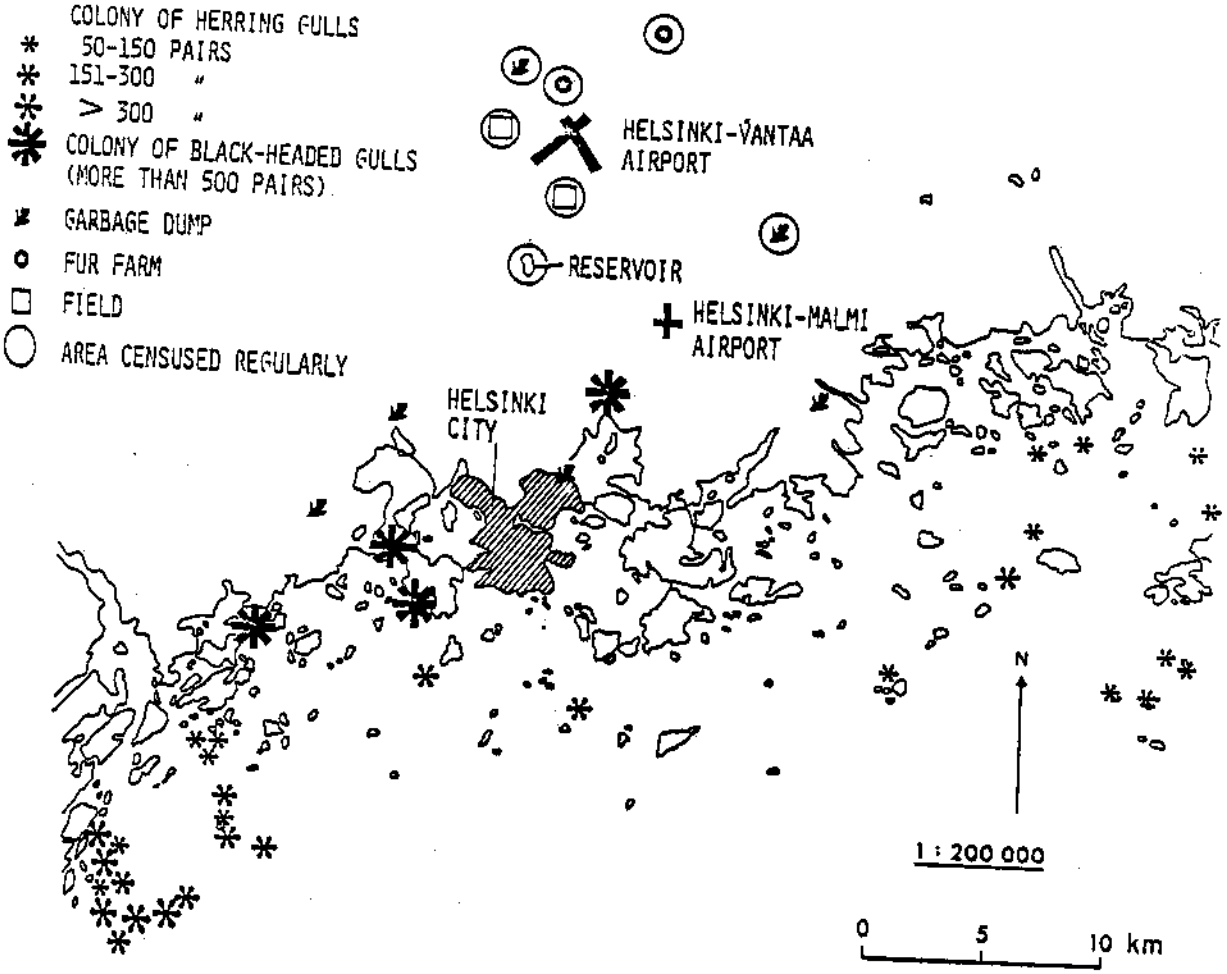
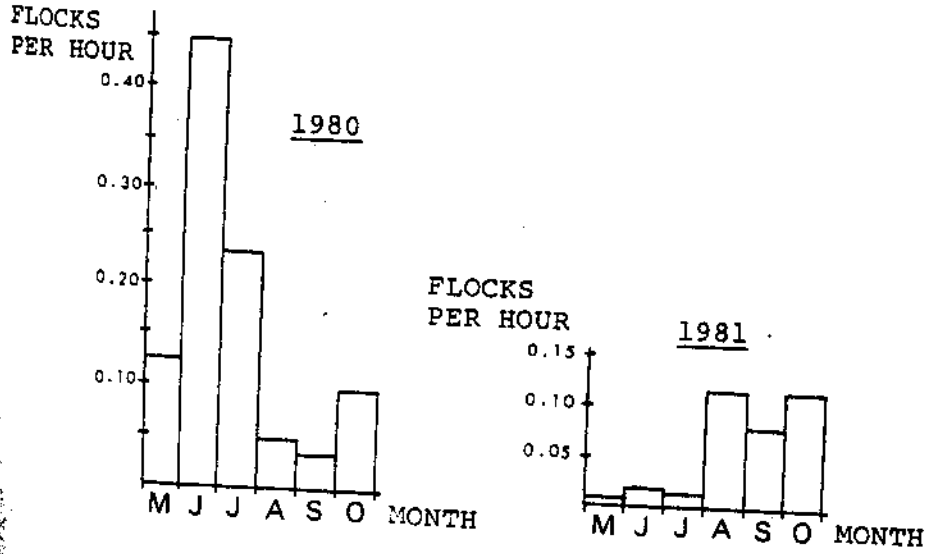


Fig. 1. Location of Helsinki-Vantaa Airport and important sites in view of bird control strategies, of which the seven circled sites nearest to the airport are under regular censusing.



2. Number of dispersed flocks of Gulls per hour in 1980 and 1981 in May-ber in one month periods.

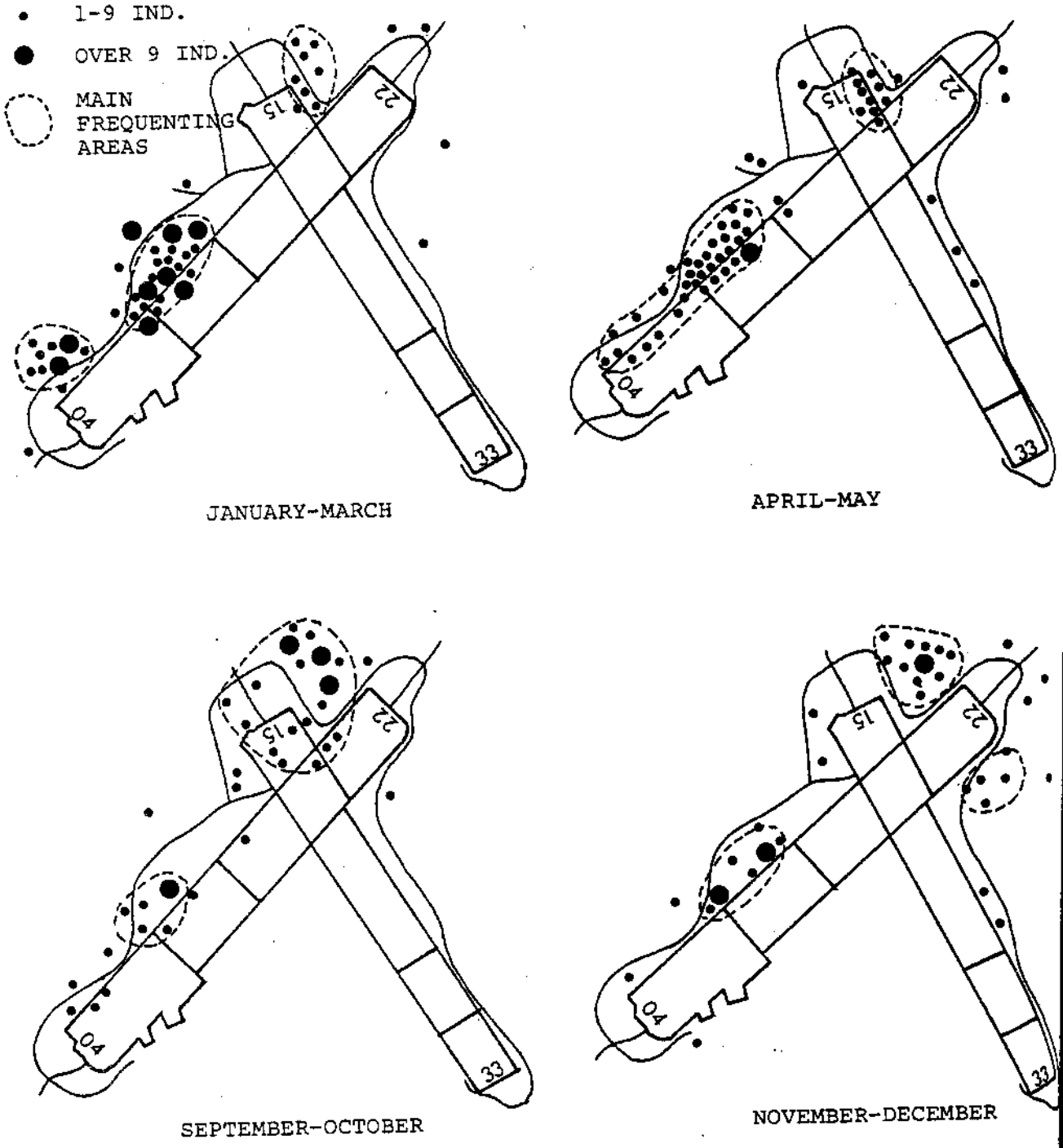


Fig. 3. Dispersal sites of Black Grouse at four different times of the year. In the summer the species is less frequent in the movement area.

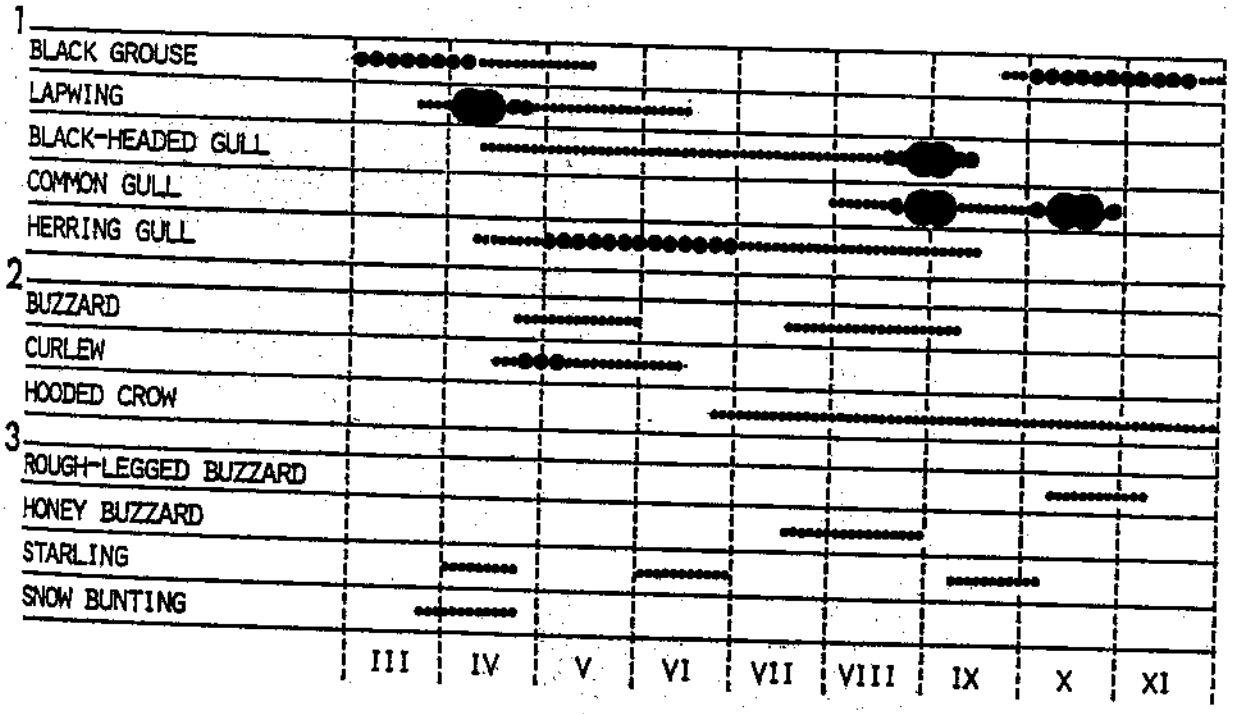


Fig. 4. Occurance and hazardousness of twelve species at Helsinki-Vantaa Airport in March-November 1981 on the basis of dispersals and observations by the bird patrol. The bird species have been divided into three hazard categories. Midwinter months have not been included since during that time patrol was primarily watching out for the Black Grouse.


Underground flying