

BIRD STRIKE PROBLEMS AT BEN-GURION AIRPORT, LOD - ISRAEL.

by Sh. Saretz, Israel.

General.

In December 1973 an El-Al plane full of passengers met during the take-off with a flock of birds - probably gulls. The pilot succeeded to brake, but as a result one of the motors was damaged and one of the back tyres burst. Fortunately nobody was hurt, but this incident served as a warning. The airport management looked for ways to avoid possible accidents, and among others, approached the Nature Reserves Authority, and thus I started to deal with the problem in January 1974.

Meanwhile the runways in the airport were being checked frequently, and if there were birds, a car was driven along the runway before or after take-off or landing of planes, in order to get rid of them. Obviously this method was not very effective.

When the matter was turned over to us, we immediately installed a number of gas cannons and also equipped the control people with shot-guns so that, if necessary, they could be put into action under controlled conditions. At the same time we started to investigate the special problems of the site, and we also collected know-how from every possible source in order to profit from the experience in other countries.

From the beginning we learned that we had to remove the principal sources of food for the birds, and we immediately initiated action to have the garbage dumps transferred from the neighbourhood of the airport.

At the end of 1974 I submitted to the airport management a report on the dangers of certain birds and proposal for short term measures as well as long term solutions. The present summary is mainly based on this report.

The site and its environs.

Ben-Gurion airport is situated in a densely populated area. Around the airport there are citrus groves and cultivated fields, and even between the runways big areas have been leased to farmers who grow there various crops, mainly industrial crops.

To the north west at a distance of about 5 kms there is the biggest garbage dump in the country to which many tons of garbage are delivered daily from Tel-Aviv and the neighbouring townships. Another smaller local garbage dump adjoins the airport on the north eastern side. These dumps are rich sources of food and attract many birds and are, therefore, the main cause of trouble.

The birds and their dangers.

1. The Black-headed Gull - *Larus ridibundus*. This species is found in great numbers, but only during the winter. They usually arrive in October, and within a short time thousands of gulls appear on the beaches, in the fields, on garbage dumps, at the fish ponds etc. Thousands come each morning to the garbage dumps near the airport from their dormitories on the beach. After stilling their hunger they rest in ploughed fields or in puddles formed by the winter rains and sometimes on one of the runways of the airport. They begin to leave us in March, and in April there are hardly any left.

2. The Rock Partridge - *Alectoris graeca*. This species is resident and is increasing in numbers and spreading to additional areas such as the coastal plain. This may be caused by the reduction in numbers of their natural enemies such as the jackal and the fox, but no doubt agricultural development which provides ample food had also a considerable influence. Therefore, the area of the airport which is rich in field crops attracts increasing numbers of partridges which are accustomed to hide in the citrus groves which adjoin the site, or on the airport itself in places with thick vegetation. In the course of their roaming through the area they frequently cross the runways either running or in low flight.

3. Other bird species which are a potential danger, even if to a lesser degree are the Lapwing - Vanellus vanellus, which appears in small numbers in the fields. The Starling - Sturnus vulgaris, which in some years appear in great numbers and then they can be found nearly everywhere in the area. The Cattle egret - Ardeola ibis is resident in the district and is sometimes found in the fields and at the garbage dumps but is hardly ever seen within the boundaries of the airport. Doves and Pigeons - Streptopelia and Columba are present in considerable numbers but usually outside the site.

From this data it was clear that we had mainly to act against the gulls and the partridges while observing their behaviour in the neighbourhood. There is also reasonable hope that we shall be able to reduce, if not entirely to eradicate the risk by the other above mentioned species.

Measures to solve the problem.

The proposals made in the beginning to the airport management were:-

1. Removal of the many sources of food, or at least reducing them to a minimum.
2. To stop the growing of field crops within the boundaries of the airport, or at least to determine which crops may be grown which do not attract birds.
3. To encourage hunters to shoot partridges under controlled conditions on the site of the airport, even in the breeding season when shooting is not permitted in this country.
4. To drain puddles of water remaining within the boundaries of the airport and around it.
5. To use various means of scaring and driving the birds away such as gas cannons, stuffed birds or carcasses of these birds, distress cries etc.

The present position (1975).

Since the first incident in December 1973 there were a small number of bird strikes, mainly with El-Al planes but also some foreign airlines, though fortunately no serious cases. Altogether, we know of 5 bird strikes only, and in two of the cases one of the motors was affected. In one instance feathers of a rock partridge which got into the motor during the take-off was found, but no damage was caused. In addition there were a few instances when the take-off of a plane had to be delayed until birds which were on the runway or near it had been removed.

Obviously, these cases obliged us to look for further effective measures. Meanwhile the airport management has been successful in negotiating the removal of the garbage dumps from their present location to a reasonable distance, probably in the course of this year, and I believe that this will be a great step forward.

The airport management has agreed to the necessity of appointing one man for the operation of the measures against bird strike, who will also be responsible for trying out new methods.

In the meantime contact has been established with various organisations in Canada, U.S.A. and European countries, mainly Holland, from whom we got very valuable advice and instructive material.

On the basis of this advice, we are now going to ^{use} as scaring methods dummies, bird scare pistols, distress call tapes, and all this in addition to the gas cannons which, in my opinion, are most effective at least against gulls, if they are operated only for short periods and in the right locations.

Last winter we also made a trial with a chemical repellent. The material which is manufactured in the U.K. under the trade name Gurb is an Aluminium-Ammonium- Sulfate which causes irritation and drives the birds away. It has been tried out for agricultural crops, in some cases successfully, especially if alternative sources of food for the birds were available. We sprayed the small garbage dump and also the length of the runway which is used as a resting place by the gulls and is crossed by the partridges. Unfortunately, our first trial was not successful due to unfavourable weather conditions, but I intend to repeat the trial in the next season.

Furthermore, a proposal has been made to create artificial pools at a considerable distance from the site thus drawing at least some of the birds away from the area.

Summary.

Our operations concentrated first of all on getting rid of the garbage dumps in the neighbourhood and on the utilisation of the areas between the runways in a way which does not attract birds. We took measures to frighten and scare gulls and partridges and to restrict the partridge population by shooting.

I want to take this opportunity to thank all the people and organisations who have assisted and advised us, and the BSCE who invited me to take part in this session. My special thanks are due to Dr. Stortenbeker and his colleagues in Holland from whom we received invaluable help and instruction.

Shalom Suaretz
Chief Ornithologist,
Nature Reserves Authority.