Establishment of Bird Control Units at 6 Dutch air bases

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introduction

Birdstrike prevention activities in the RNLAF, but probably also elsewhere in aviation, seems to be a cyclic phenomenon. Two years ago I showed you figures and expressed some thoughts about succes and malaise as regards fighting the bird problems in Holland. Nowadays the Airstaff reconsiders all possibilities as much as possible.
After some general remarks about statistics this paper gives a short description of the establishment of Bird Control Units (BCU's), groups of personnel and equipment responsible for birdstrike prevention at air bases. Although the same denomination is used here as in the UK there are probably differences in the organisation structure, which can be of importance to our discussions.

statistical arguments

The main reason for the increasing urge to tackle the problems is the reinterpretation of statistics. Analysis of birdstrike data is highly important to raise funds but frequently leads to misunderstanding. Recruting of special personnel is expensive; so it seems important to pay some attention to the arguments.
A graph giving the annual totals of birdstrikes causing damage clearly shows the general trend, apart from annual fluctuations that are difficult to explain. It appeared to be essential to consider these statistics on a rather long-term basis. Careful analysis is necessary because of several "snacks". Especially the following points are very important:

a) the quality of reporting: their is a distinct relationship between general interest in the problem and the number of non-damage birdstrikes, which should be separated from the ones causing damage. Introduction of a BCU at an airfield will result in an astonishing increase of (non-damage) birdstrikes!

b) local ("airfield-") birdstrikes have to be separated from the "en route" ones. At airfields there is more chance of finding birdremains not only on the airplane but also on the runways. Apart from the increase in detection chances, there are also greater possibilities of identification of the species involved. This means a strong bias towards "airfield-bird-species". En route strikes seldom yield more than some feathers or minced meat. In case of no damage even the cause "bird" is not always evident. Non damage cases en route are distinctly less frequently reported and vary according to size and type of aircraft and instructions and attention of the crew. The quality of the reported data is also relatively inferior compared to those of local birdstrikes.

Our general conclusions regarding a period of 20 years, respectively without, with, without and again with keen attention to what has happened are:

1. don't draw any rash conclusions about the benefits of investments. One needs many data and it takes several years to discover the general trend.

2. Local and "en route" birdstrikes are fundamentally different in character and to explain them different approaches are needed. Because of lower speeds of aircraft above and near airfields there is not much chance of damage, but if something happens, especially in take-off, the risk of fatal accidents is relatively great. On the other hand "en route" strikes very frequently result in damage but in dangerous cases often there will be enough time for bail-outs. The high damage ratio is partly due to detection bias but apart from this there is a relation between size of damage and flightspeed resulting in a high "en route" strike ratio for low flying military jet aircraft. The "en route" category is of no importance to civil aircraft perhaps with the exception of helicopters flying with high speeds.

3. In the RNLAF local strikes constitute roughly 40 % of the total number of damage strikes. In 1976 one jet aircraft was totally lost and the pilot fatally injured. In 1977 a similar situation went well thanks to the professional skill of the pilot and the lessons learnt from the first case.

4. The total prevention success depends on a general program with a broad scope. It cannot be simply correlated with a single element of all prevention activities. Complete incorporation of the birdprogramme in the daily operations is a must.
As long as pilots are not convinced of the possibilities, and do not see a practical approach, birdstrike prevention will become ineffective. An operationresearch-approach to the problems within BSCE would probably do much good.

selection, training and status of personnel

After having reinforced the staffpotential by the recruitment of a full-time ornithologist, and with the help of academically trained conscripts, the air staff decided to decentralise: each jet-base is to have one specially trained birdman on a full-time basis as an extra employee of the airbase safety office which as a rule consists of 4 persons. He should take much interest in birdlife but also possess much experience in airfield operations. He should at least be able to make contacts with many people and to work independently. So the RNLAF decided to appoint non-commissioned officers who, like other flight safety specialists, keep their normal career possibilities.
This seems to differ a little bit with the UK system, where on average a team of 3 people has been contracted. In general the english BCU-members have no promotion possibilities on a longer term and therefore stay for a limited period of time while their wages are lower.
We feel that there is a need for an experienced specialist who will do the work as long as possible. Apart from joining the scaring and patrol-work he coördinates the activities of personnel already present at the airbase: especially firemen are highly suitable because of their full-time presence during operations and because as a rule their workload is not very heavy. Besides these people are often eager to join some extra activity.
We are afraid that presence of too many anti-bird specialists will lead to a decrease in the general belief in cost-effectiveness if there are no birds to scare for a prolonged period of time which in fact is our main purpose! In addition the specialists themselves will lose their belief in their own indispensability. In contrast one single senior "birdspecialist" who does the monitoring work and coördinates and trains assistents provides a better chance of long term survival of the BCU.

Besides this the person is expected to become gradually the expert on all sorts of airfield environmental problems and who knows all difficulties and the persons to contact. Difficulties arising out of our strong bird-protection law will also be reduced to an acceptable minimum.
Apart from attending the UK-course on bird-control our "Birdmen" and staff personnel exchange information every three months at a one-day meeting, held at one of the problem airfields. This proves to be very beneficial especially as regards motivation and discussions about psychological problems: within the base the job is unique and still now not every one understands the type of work.

daily programme

Routine activity is the early morning count followed by a scaring patrol to be concluded at least fifteen minutes before the first wave of fighters takes off. During the flight programme scaring is only performed: a) after having received a call from ATC or b) by way of irregular patrols in case great birdproblems already occur during the first early morning patrol. As soon as there is a pause in the aircraft activities extra care is compulsory. During operations aircraft scare away most birds but a pause in flying means that there is relative quietness in the runway area as compared with surrounding fields.
In many cases it appeared that the birds could have better be left undisturbed instead of scaring them away. Flying in the air they sometimes present a greater risk. Knowledge of the behaviour of the birds under different circumstances is of great value.

Simple mapping of the most dangerous species is considered extremely important a) as regards monitoring the situation in relation to the seasons and agricultural activities, and b) as regards keeping the birdman attentive and preventing him from having uncontrolled prejudices. We consider the last point to be of great value because in general we experienced that too many airfield people believe they know the problems and the solutions but in fact this knowledge rarely leads to any actual results; and even impedes the really effektive handling of the matter. Consequently hard figures will always be required.

Scientific research requires controlled circumstances and an proper statistical approach. But environmental processes are so complicated that application of short-term results has not always been satisfactory. Simple mapping of some birdspecies at several airfields and during all seasons far over one year, combined with information concerning agricultural activity, will therefor contribute any understanding of relationship between birdlife and the airfield environment. Moreover it will provide a general local picture of situations to be expected.
Permanent monitoring will always be necessary to encouter short-term effects of mowing, ploughing, seeding and fertilizing as far as these activities are not prohibited.

equipment

A full equipped vehicle, able to drive across all over the airfield during operations, is of course absolutely essential. We use a Volkswagen-bus with mobilofoon, orange flash light, white spotlight to direct in all directions by the driver, distress call equipment, shell crackers, and enough space for gascanons, gull dummies, or even the radiocontrolled peregrine falcon. We believe that results can best be achieved by alternating as much as possible the application of the scaring technics. Bird scaring apparatus should never be left long at same spots.

Local birds or long-term visitors that cannot be driven away and who attract other migrants are elim-inated. It is considered a last resort not because we believe that the numbers can be reduced by this way, but because birds shot down can add to the strength of the effect of our scaring technics.
Simple shooting down as many birds as possible is not the right solution!