Strides in Bird Hazard Control at Entebbe International Airport

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Abstract

The location of Entebbe International Airport within the Entebbe Peninsula Bird Sanctuary and on the migratory path of birds moving to and from Africa would outwardly make it one of the most bird strike prone airports in the world. However, the airport actually has a relatively clean strike record. This article illustrates the methods used at Entebbe International Airport and their effectiveness in controlling the different bird species.

Résumé


Introduction

Entebbe International Airport is built on a peninsula jutting into Lake Victoria (the largest lake in Africa). The lake shores are known to be important for water birds and indeed the airport lies between two Important Bird Areas (IBAs), Lutembe Bay to the east and Mabamba Bay to the west.

Fishing activities, although providing a livelihood for a great part of the local community, attract different scavenging species such as black kites and marabou storks. Many human activities on the peninsula have led to an increase in the amount of garbage produced, while garbage management, however, remains to be improved. Crop gardening within and near the airport attracts birds, which come to feed on rodents that feed on plants such as cassava and potatoes, while sand excavation is believed to create small pools of water that with time contain invertebrates such as worms, insects and snails – food for birds. Human settlements on islands that were once occupied by birds have led to the birds having to relocate to other places, including the airport environment.

Some of the common birds at the airport include resident species such as the black kite (Milvus migrans), African fish eagle (Haliaeetus vocifer), grey- headed gull (Larus cirrocephalus), little egret (Egretta garzetta), marabou (Lepitoptilos crumeniferus) and black- headed heron (Ardea melanocephala). Paleaearctic migrants are also common, including the white-winged black tern (Chlidonias leucopterus), gull-billed tern (Gelochelidon nilotica), barn swallow (Hirundo rustica) and sand martin (Riparia riparia).
The peninsula is also in the migratory path of birds moving in and out of the northern and southern hemispheres. Because of its richness as a bird habitat, Entebbe peninsula is a gazetted ‘Bird Sanctuary’

**Methods and Measures Taken**

In March 1997, an environmental/ecological study was carried out. The research identified factors contributing to the high bird populations and put forward a number of environmentally-friendly control recommendations that are currently being implemented by a dedicated Bird Hazard Control Unit.

**Environmental management**

Drainage of a small marsh on the northern side of the airport that had been attracting birds, particularly pelicans, terns, gulls and egrets, has led to a reduction in bird strike incidents on approach of aircraft. Nest removal from within the airport perimeter has reduced the number of weavers birds (*Ploceus* spp.) breeding there. Bush clearing along the airport fence has also been done, to make it less attractive for birds like the Guinea fowl (*Numida meleagris*). Anthill eradication has been effective in the reduction of most birds that are fond of perching on anthills, especially the African fish eagle. These anthills attract large flocks of different bird species especially when the flying ants (alates) are emerging.

Long grass policy is a method under which grass is to be left at a height of 20 cm. This is intended to impair the bird’s vision, rendering them insecure, and thus discouraging their presence. However this method is still under investigation.

Runway sweeping has been particularly effective in the control of scavenging birds, especially black kites and marabou that come to feed on bird remains following a bird strike incident.

Monitoring refuse disposal, a measure under which constant checks on refuse are made to ensure proper disposal of garbage, has also had a great impact. The marabou, black kite, pied crow (*Corvus albus*) and other scavenging species have significantly declined.

**Community based activities**

Although the problem of birds manifests itself at the airport, it is also important to reduce the number of birds residing in the adjacent areas. Constant monitoring and sensitization of the neighborhood serve to discourage activities and practices that attract birds. This includes occasional audit checks of the fish factories, markets, landing sites and any other relevant places. Also important is the discouragement of gardening in the airport environment.

**Bird scare methods**

The above practices aim at making the airport less attractive to birds. Nevertheless, some birds still come and the methods below are used to scare them off. The distress calls method uses recorded sounds of various species under distress, which
**Fig 1**: Shows the number of incidents in which planes have received significant damage since 1997. A conspicuous downward trend can be seen although the actual number of planes using the airport has increased over the years.

**Photo 1**: Aerial view of Entebbe International Airport
Photo 2: Blach-headed heron feeding close to the air strip.

Photo 3: Habitat management near Entebbe International Airport

Photo 4: Vehicles loaded with distress calls player and high impact megaphones
are broadcast atop a vehicle using high impact megaphones. This sound warns the birds away from the aircraft movement areas.

Foot patrols: People are strategically located on the runway edges to scare off birds sighted rather than kill them. This method has been effective in the control of large birds, e.g. African fish eagle, black kite, black-headed heron and marabou.

### Institutional Arrangements

Airport Bird Hazard Control Committee: A committee to regularly monitor and recommend appropriate bird hazard control activities is composed of the Civil Aviation Authority, the community around the airport, and other relevant representatives from the private and public sector.

**Reports and statistical data:** The Bird Hazard Control Unit is also charged with collection of relevant data for research purposes.

- For any bird strike, the following information is collected: location of strike, bird type or species (if it can be identified to that level), aircraft type, weather, time and any noted aircraft damage.
- Bird sighting reports are also made to determine patterns in distribution of birds according to season, time, weather and habitat conditions.
- Reports are made to CAA management, Airport Bird Hazard Control Committee, and airline operators.

### Results

Figure 1 shows the number of incidents in which planes have received significant damage since 1997.

### Conclusions

Entebbe has been known for bird strikes over many years. Many operators are still not fully aware of the changes that have occurred over the last three years, and certain factors remain to be studied. It is not clear yet what grass height will discourage problem bird species from the airport and additional research is required. Regarding the presence of floating suds on the lake, which provides a habitat and food for some birds, control of these has only yielded temporary results. Here too, further study is needed. There is currently an ‘Environmental Management Partnership’ program under the auspices of the Entebbe Municipal Council. This is expected to assist in controlling some of the bird attractions at the municipal level. There is a continuing need to inform all relevant parties regarding the success experienced at Entebbe in the area of bird hazard control. The CAA website will provide a slot for this. Brochures are currently available and other meetings such as that which resulted in this Proceedings will be of great benefit.