



BIRD AND WILDLIFE MEASURES AT KAA





Introduction

- The presence of wildlife in the aerodrome vicinity poses a serious threat to aircraft.
- Wildlife strikes impact greatly on safety of passengers as well as airline business and has to be well managed to ensure safety.

Introduction...

- Kenya Airports Authority has put in place a Wildlife Management Programme tailored to the size and level of complexity of each certificated Aerodrome.
- Part II – of the Kenya Civil Aviation (Certification Licencing and Registration of Aerodromes) regulations, 2018 requires that an application for an aerodrome certificate be accompanied by among others Bird and Wildlife Hazard Management Manual.

Introduction...

- In the plan we developed procedures to deal with the danger posed to aircraft operations by the presence of birds in the aerodrome flight pattern or movement area, including the following-
 - a) arrangements for assessing birds and wildlife hazards;
 - b) arrangements for implementing birds and wildlife control programmes.

Introduction...

- Kenya Civil Aviation (Aerodromes) regulations require the wildlife strike hazard on, or in the vicinity of, an aerodrome to be assessed through, among other things, the establishment of national procedures and an ongoing evaluation of wildlife hazards by competent personnel.
- We have complied with this requirement as an aerodrome operators.

RISK ASSESMENT SITES

- Kenya Airports has continually conducted a Bird and Wildlife Risk Assessment for major domestic and international airports which include;
 - JKIA,
 - Moi,
 - Eldoret
 - Kisumu,
 - Wilson,
 - Malindi, etc

JKIA

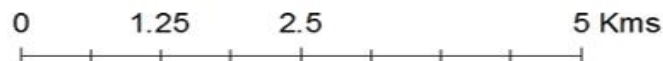
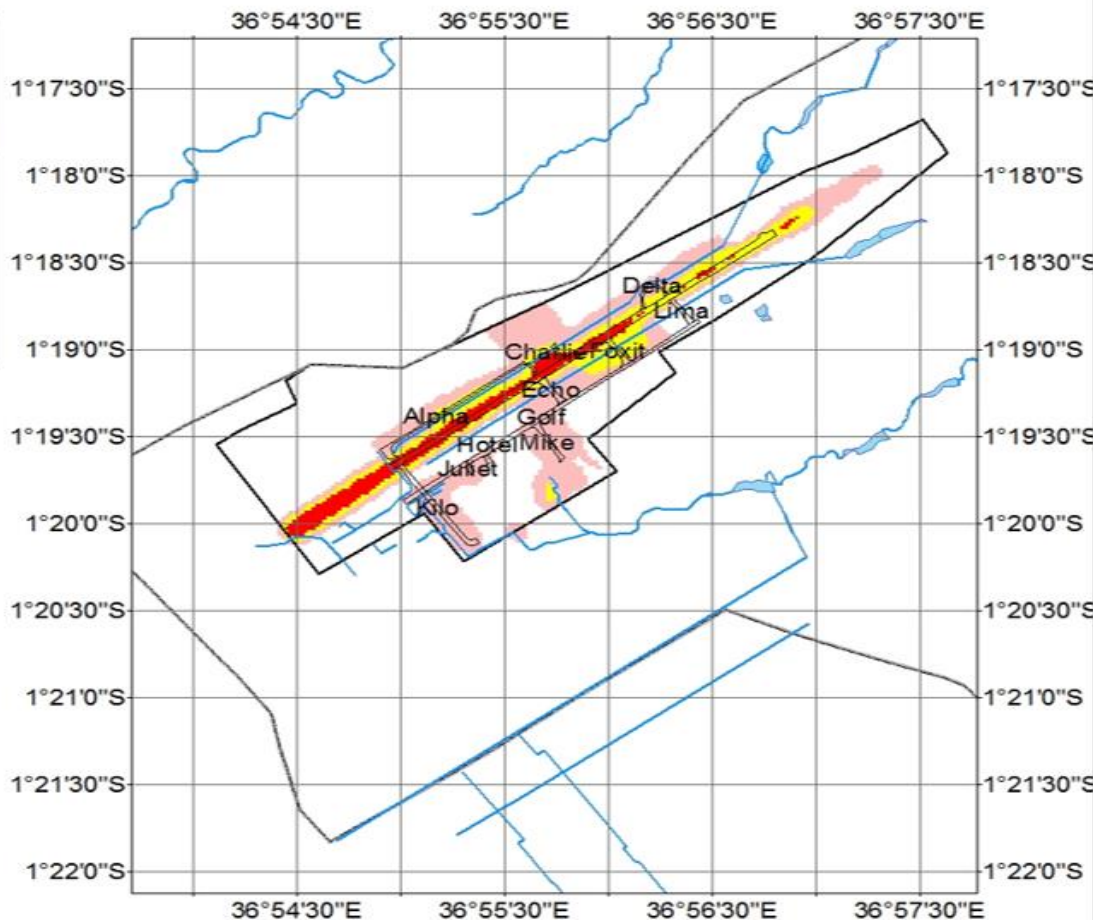


Legend

-  Taxi Way
-  Water Way
-  Wetland
-  Airport Boundary
-  Airside Boundary
-  Runway

Hotspot.tif

-  Very Low
-  Low
-  Moderate
-  High



JKIA...

- Wildlife at JKIA is controlled by:
 - a) Managing the habitat so that the airport do not attract wildlife,
 - b) Excluding wildlife from the airport through the use of fences
 - c) Dispersing wildlife from within the movement area and adjacent areas, and
 - d) Removal of dead wildlife remains;



Major Bird Attractants at the Airport

1. Inadequately Drained Areas

- The area surrounding the Airport is flat and contains black cotton clay soil, which is not always easy to drain and fill. When it rains there is pooling of water within the landscape due to less water percolation.
- The presence of freshwater and waterlogged soils forces invertebrates close to the surface, thereby making them more accessible to foraging birds that end up being a safety risk to aircraft operations.



Major Bird Attractants at the Airport...

2. Poorly Demobilized Projects

- The proposed green field terminal is also another site rich in bird species.
- The area had been earmarked for a new Airport, after ground-breaking some and major excavations were undertaken.
- This project did not take off due to unforeseen circumstances and as a results ponds and wetland was created which often attract large numbers of potentially hazardous wildlife during rainy seasons.



Major Bird Attractants at the Airport...

3. Vegetation Cover

- Expansive with grasslands occupying the largest surface area on airport and providing opportunities for birds to forage, loaf, and to establish nesting territories.
- The tall grass can harbor greater numbers of insects, which could increase foraging success and use by starlings and provides cover for small mammals, which in turn are preyed upon by hazardous wildlife.



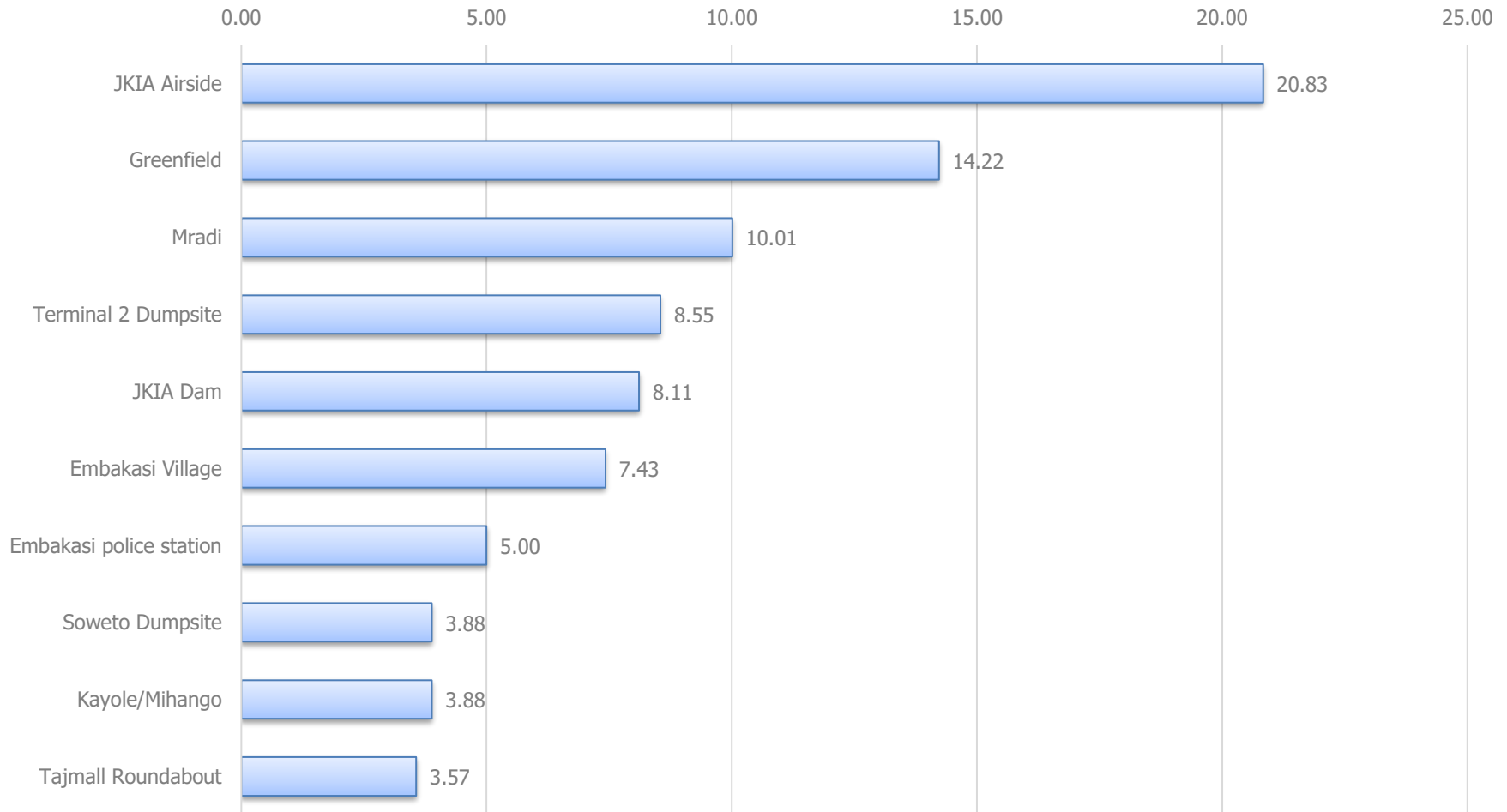
Major Bird Attractants at the Airport...

3. Increased Population within the Airport Surrounding

- The residential areas surrounding JKIA has witnessed an increase in human population that has led to an equal increase in waste generation.
- There are several dumpsites bordering the Airport and due to poor waste disposal within the environment, it has led to increased bird activities, as the waste is an attractant especially to the birds.

Bird Strike Sites Around JKIA

Total bird strike risk levels for the sites at and around JKIA: April to June 2020

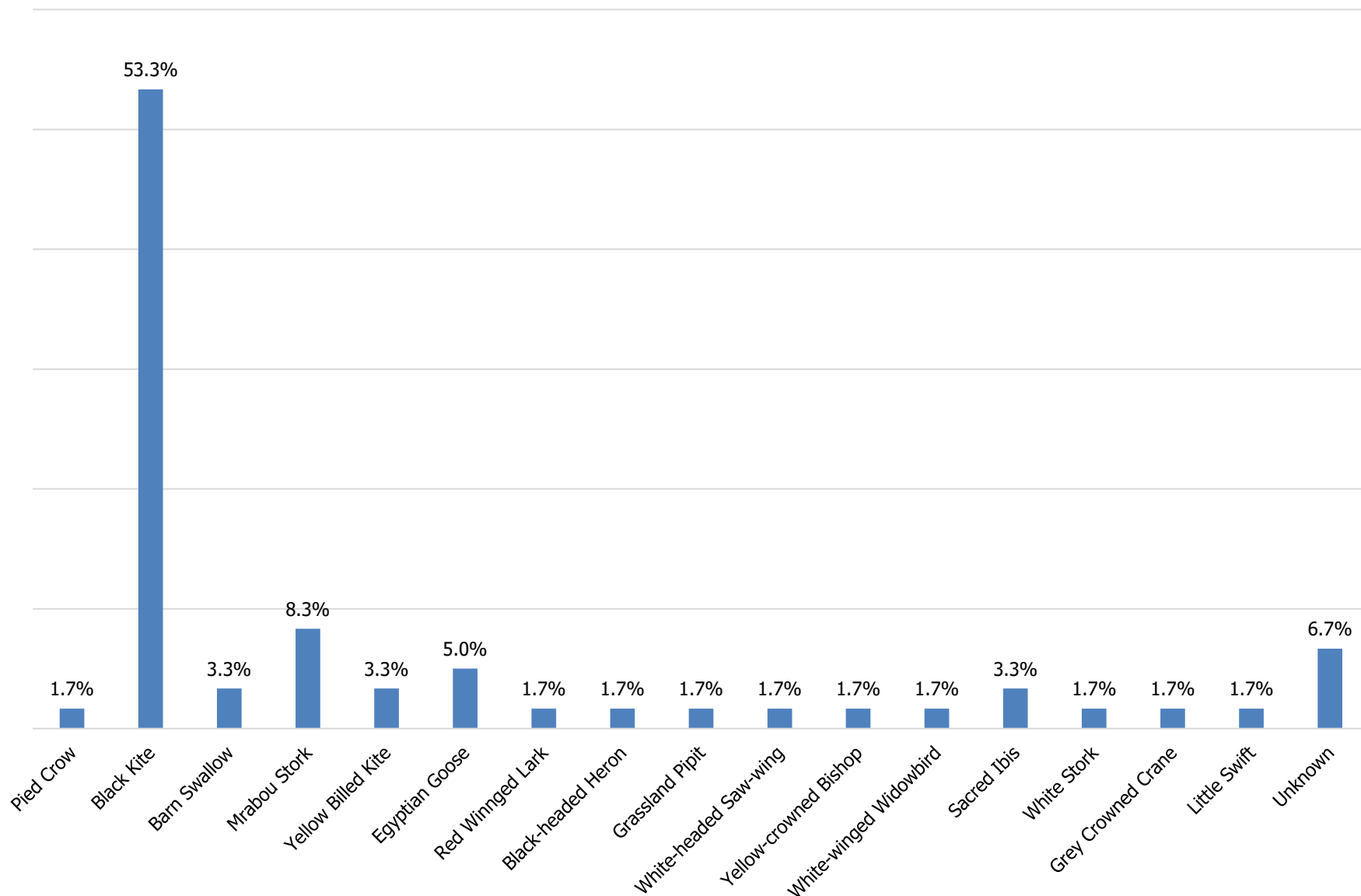




Bird Strike Sites Around JKIA



Bird Strikes-Bird Species



Current Mitigations

1) Active management

- Active management directly removes or reduces the number of wildlife
- ✓ **Patrols and inspections**
- ✓ **Dispersal** -Distress calls, Runway sweeping, use of Gas cannons and harassing



Gas Canon

- This is a prerecorded distress wildlife sounds to disperse and deter wildlife away from the airport.
- It produces loud sounds on intervals.



Current Mitigations

- **Active management**
 - **Night relocation-** Egg and nest removal to deter the establishment of breeding territories, as well as limiting local breeding success done every night.
 - **Trapping and relocation -** (remote release) done in liaison with KWS.
 - **Pyrotechnic control -** Firearms which uses blanks to scare birds.
 - **Removal of Junk aircraft**



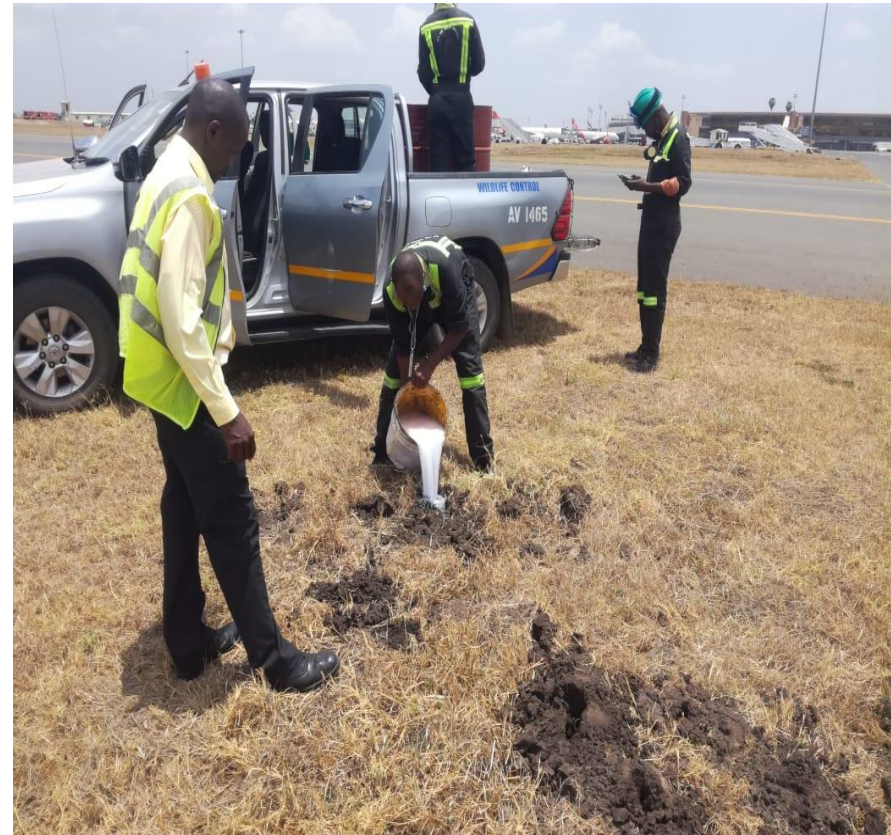
Catapult

- This is a tool used for catapulting special acoustics and paper Mache balls.
- The paper Mache ball are environmentally friendly and leaves no stones on the runway since they biodegradable



Pesticides

- We undertake the treatment of anthills at the airside using pesticides so as to prevent flying ants and termites from flying and attracting birds which feed on them hence risk of being struck by aircrafts



Current Mitigations

(2) Passive management

➤ This involves modification of the habitats or other aspects of the environment to indirectly remove or reduce the number of wildlife.

- **Grass management**
- **Drainage management**
- **Landscaping**
- **Waste management**

Problematic Species

- The **Black Kite** is most prone bird to wildlife strike at Jomo Kenyatta international Airport
- The **Marabou stork**. They move from the National Park to foraging sites or grounds through the airport hence the increase in strikes.
- The **cattle egrets** and **sacred ibis** has significantly reduced due the ongoing night colonial bird relocation program that happens around the airport during the night hours.

Conclusion

Effective control requires the use of a mobile patrol, operated by trained and equipped staff who are able to disperse wildlife immediately as they are detected.

The choice of techniques is dependent on;

- In-depth knowledge of the airport and vicinity habitats and the distribution,
- Movement patterns and behavior of the wildlife

JKIA PROBLEMATIC BIRD SPECIES



Black Kite



Marabou Stork

JKIA PROBLEMATIC BIRD SPECIES



Black headed heron



Barn Swallow

JKIA PROBLEMATIC BIRD SPECIES



White Rumped Swallow



Pied Crow

JKIA PROBLEMATIC BIRD SPECIES



Hadada Ibis



Egyptian Goose

**"That's
all
folks!"**

