

# Climate Adaptation Synthesis **Factsheets**

## Aviation and **Changes to Biodiversity**



The main risks to aviation from changes to biodiversity are changes to wildlife migration and propagation of invasive species. Composition of ecosystems may change, leading to changes in both local biodiversity and wildlife migration patterns. Climate change impacts are expected to lead to species loss, habitat loss especially for waterbirds and large species of birds, and loss of breeding grounds.

### Potential Impacts

- Biodiversity changes may include shifts in the diversity of bird species that are present at an airport. For example, some areas may see an increase of heavy-weight migratory bird populations such as grey goose or white stork. Migratory birds are a challenge at airports in many regions due to their potential effects on aircraft operations, particularly the larger birds such as geese, eagles, and pelicans.
- Biodiversity changes may also change or increase other wildlife hazards at or in the vicinity of an airport, for instance an increase in flocking birds that are commonly found near aerodromes (for example, gulls, starlings, crows, pigeons). Changes in bird populations or migratory behaviour, or a combination of both, can increase the risk of bird-strikes.
- There may be damage to landscaping and an increase in maintenance costs due to changes in local wildlife or an increase in invasive species. However, effects are likely to be localized depending on the ecosystem and climate change impacts in a particular area. For example, in North Africa and the Middle East, changes in rain events have increased the potential for locust swarms.
- Changing interactions between flora and fauna may also be possible as both are expected to migrate due to climate change. This migration may lead to introductions of alien species to new areas. For example, changes in vegetation around the airport operating area could lead to an increase or change in bird populations, which could lead to an increase in the risk of bird strikes.



ICAO

ENVIRONMENT

# Climate Adaptation Synthesis **Factsheets**

## Aviation and **Changes to Biodiversity**



### Adaptation and Resilience Measures

- Airport officials can monitor wildlife populations to detect any changes such as timing of presence, numbers and species types. Additionally, understanding how climate change will affect birds and wildlife is essential to assess the risks to aviation and to develop adaption and resiliency measures to reduce effects.
- Any measures should be developed in co-operation with environmental protection experts and organisations.
- Expanded use of bird strike avoidance models is a potential measure.
- Flight paths may be temporarily altered to avoid large flocks of migrating birds.
- Up-to-date data information will allow for the preparation and use of the most effective methods in wildlife hazard reduction, whilst taking account of nature protection and relevant environmental regulations.
- In some cases, vegetation management to address unwanted flora may be a solution.
  - Mowing or trimming can be a short-term fix. However, these strategies do not completely remove unwanted vegetation and may allow them to regrow. This may also attract birds as worms and mice become more visible in trimmed flora.
  - Using herbicidal treatments may provide a longer-term solution but can have environmental impacts such as ground water contamination and be detrimental for biodiversity and alternative options should be considered.
  - Permanent removal through extraction or landscaping changes may be used so that the plants do not grow back.

