

ADVISORY CIRCULAR

Subject	Issuance Date	AC Number	Version
Guidance Material on Biodiversity protection around airports	1-September-2024	156-05	1.0

Note: This Advisory Circular is published to provide additional information and recommended actions that further elaborate on provisions or concepts prescribed in the GACAR Part-156.

1. Introduction

1.1 Purpose

The purpose of this advisory circular is to present biodiversity protection principles and an overview on illegal wildlife trafficking.

1.2 Applicability

This advisory circular is applicable to all aerodrome operators and air operators

1.3 Cancellation

This is the first official version of this advisory circular, and it cancels no other advisory circular on the subject matter.

1.4 Related regulatory references

- a) GACAR Part-156.

1.5 Related reading materials and references

- a) ACI, Combatting Wildlife Trafficking Handbook, available at: <https://store.aci.aero/product/combating-wildlife-trafficking-handbook-first-edition-2021/>

1.6 Approval

This advisory circular has been approved for publication by the Executive Vice President of Aviation Safety and Environmental Sustainability Sector in the General Authority of Civil Aviation.

2. Biodiversity protection overview

2.1 Principles of biodiversity

According to the World Wildlife Organization, biodiversity refers to the variety of life forms on Earth, which has evolved over hundreds of millions of years. Another simple definition is all the different kinds of life you'll find in one area—the variety of animals, plants, fungi, and even microorganisms.

There are four aspects of biodiversity that influence each other which are species, genetic, ecosystem, and global biodiversity.

In 1992, at the Rio de Janeiro Earth Summit, the Convention on Biological Diversity (CBD) was adopted. CBD has three primary objectives:

- a) Conservation of biological diversity: It seeks to conserve ecosystems, species, and genetic diversity.
- b) Sustainable use of biological resources: It promotes the sustainable utilization of biological resources for economic and social development.
- c) Fair and equitable benefit-sharing: It ensures that benefits arising from the utilization of genetic resources are shared in a fair and equitable manner

2.2 The need for action

The Kingdom of Saudi Arabia ratified the CBD in 1994, indicating its commitment to the objectives and principles of the convention. As a party to the CBD, Saudi Arabia is expected to develop and implement national strategies and action plans for biodiversity conservation, promote sustainable use of its biological resources, and cooperate with other parties in the conservation and sustainable management of biodiversity.

While the civil aviation industry has made efforts to reduce its environmental impact, it can still have negative effects on biodiversity. Here are some ways in which the aviation industry can negatively impact biodiversity:

1. Greenhouse Gas Emissions: The aviation industry is a significant emitter of greenhouse gases (GHGs), primarily carbon dioxide (CO₂). The combustion of aviation fuel releases CO₂ and other emissions into the atmosphere, contributing to climate change. Climate change poses a significant threat to biodiversity, as it can alter ecosystems, disrupt species' habitats, and lead to shifts in species distribution and extinction risks.
2. Noise Pollution: Aircraft noise can disturb wildlife and affect their behavior, including feeding, breeding, and communication. Noise pollution from airports and flight paths can disrupt the natural behavior patterns of species, leading to stress, habitat avoidance, and decreased reproductive success. In sensitive habitats, such as wetlands or areas with high biodiversity, noise pollution can have particularly detrimental effects on wildlife.
3. Habitat Fragmentation: Airports and associated infrastructure can lead to habitat fragmentation, which involves the division of natural habitats into smaller, isolated patches. Construction of runways, terminals,

and other airport facilities can disrupt ecosystems and result in the loss or fragmentation of habitats, affecting the movement of species and reducing biodiversity.

4. **Bird Strikes:** The presence of airports and aircraft can increase the risk of bird strikes, where birds collide with aircraft during takeoff or landing. Bird strikes can cause damage to aircraft and pose risks to human safety. To mitigate these risks, airports often implement measures to deter birds, such as habitat management, bird-scaring devices, or the use of trained falcons. However, these measures may still impact local bird populations and disrupt their natural behavior.
5. **Fuel Spills and Chemical Pollution:** Accidental fuel spills and the use of chemicals for aircraft maintenance and operations can result in pollution of soil, water bodies, and surrounding ecosystems. These pollutants can have harmful effects on biodiversity, contaminating habitats and affecting aquatic and terrestrial organisms.
6. **Illegal Wildlife Trafficking:** Wildlife traffickers use commercial airlines to transport live animals, animal parts, and products made from animals across borders. They often conceal the wildlife in luggage or cargo, or used forged documents to bypass customs and border controls

3. Development of biodiversity protection plans

Developing a biodiversity protection plan for an aerodrome operator is a crucial step towards minimizing environmental impact and promoting conservation. The plan should be comprehensive and address various aspects of biodiversity protection. Below is the suggested structure and key sections to include in a biodiversity protection plan:

1. **Introduction and Executive Summary:**
 - a) Provide an overview of the airport and its operations.
 - b) Summarize the purpose and objectives of the biodiversity protection plan.
2. **Policy Statement:**
 - a) Include a clear and concise statement affirming the airport's commitment to biodiversity protection.
 - b) Outline the guiding principles and values that underpin the plan.
3. **Legal and Regulatory Framework:**
 - a) Identify relevant national and international laws, regulations, and guidelines related to biodiversity protection that the airport must comply with.
 - b) Describe how the airport will adhere to these legal requirements.
4. **Biodiversity Baseline Assessment:**
 - a) Conduct a comprehensive assessment of the airport's surrounding ecosystem and biodiversity.
 - b) Identify key habitats, species, and ecological processes.
 - c) Evaluate potential threats and impacts from airport operations.

5. Objectives and Targets:

- a) Define specific objectives and targets for biodiversity conservation that align with international standards and best practices.
- b) Ensure the objectives are measurable, time-bound, and achievable.

6. Biodiversity Conservation Measures:

- a) Outline the specific measures the airport will implement to protect biodiversity.
- b) Include strategies for habitat conservation, species protection, and ecological restoration.
- c) Describe how the airport will manage invasive species, pollution, and other potential threats to biodiversity.

7. Monitoring and Reporting:

- a) Detail the monitoring protocols and methodologies that will be used to assess the effectiveness of biodiversity conservation measures.
- b) Specify indicators and metrics to track progress towards objectives and targets.
- c) Establish reporting mechanisms and timelines for regular reporting on biodiversity performance.

8. Stakeholder Engagement and Partnerships:

- a) Identify key stakeholders, including local communities, conservation organizations, and government agencies.
- b) Describe how the airport will engage and collaborate with stakeholders to enhance biodiversity protection efforts.
- c) Explore opportunities for partnerships with relevant organizations and initiatives.

9. Training and Capacity Building:

- a) Outline programs and initiatives to enhance the knowledge and skills of airport staff on biodiversity conservation.
- b) Include training on best practices, environmental awareness, and compliance with relevant regulations.

10. Emergency Response and Contingency Plans:

- a) Develop contingency plans to address potential emergencies or incidents that could impact biodiversity, such as fuel spills or wildlife hazards.
- b) Describe procedures for swift and effective response, mitigation, and restoration in case of such incidents.
- c) If an Emergency Response Plan already exists, it can be cross-referenced in the biodiversity protection plan.

11. Communication and Outreach:

- a) Outline a communication and outreach strategy to raise awareness among staff, passengers, and the wider community about the airport's biodiversity protection efforts.
- b) Include public information campaigns, educational materials, and initiatives to foster environmental stewardship.

12. Budget and Resources:

- a) Provide an estimate of the financial resources required to implement the biodiversity protection plan.
- b) Identify potential funding sources, cost-saving measures, and mechanisms for resource allocation.

13. Review and Revision:

- a) Establish a periodic review process to evaluate the effectiveness of the biodiversity protection plan.
- b) Specify intervals for plan revision and opportunities for continuous improvement.

The structure and content of the biodiversity protection plan may vary depending on the specific context and requirements of the airport. Consulting with experts and consulting services in biodiversity conservation and will further enhance the plan's effectiveness.

3.1 The Mitigation Hierarchy

The mitigation hierarchy is a framework that aerodrome operators can use to avoid, minimize, restore, or offset biodiversity loss. Mitigation hierarchy is a set of guidelines rather than a legislative framework.

A mitigation hierarchy assumes that development plans will strive to avoid as much biodiversity loss as possible. As shown in figure 1, the hierarchy prioritizes avoidance, then minimization, then restoration, and lastly offsets to reduce environmental impacts from development.

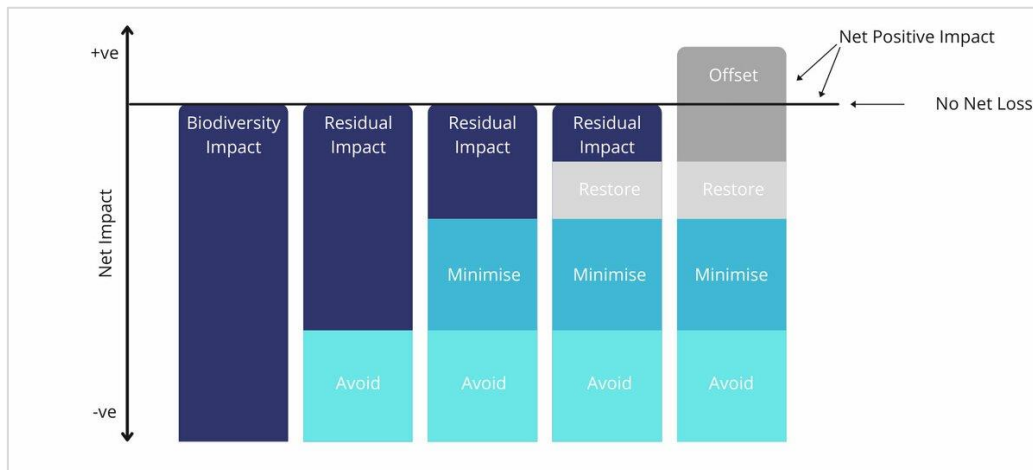


Figure 1 Mitigation Hierarchy

Avoidance: Avoidance involves changing site locations, using alternative development practices, and limiting impact areas. It is the most preferred method for mitigating impact on biodiversity

Minimization: The minimization process reduces environmental impacts. Project impact can be minimized by incorporating new technologies or methods, reducing the total land required for project activities, or even by altering the timing to limit habitat and species impacts.

Restoration: Restoration is the next step if impacts cannot be avoided or minimized. It can involve repairing soil degradation, reducing erosion and disturbed vegetation. In restoration, habitats can be restored using labor-intensive methods, or natural processes can be boosted to recovery the natural landscape.

Offsets: In the mitigation hierarchy, offsets are the last resort. Offsets include actions taken by the developer to balance the overall negative impacts. It can involve funding for national parks, restoring adjacent lands, or participating in local, regional, or national environmental projects.

When planning new development projects, aerodrome operators are encouraged to assess the potential impact on biodiversity and establish a corresponding mitigation plan using the mitigation hierarchy.

4. Combating illegal wildlife trafficking operations

Trade in wildlife resources refers to the trade in wild animals and plants, either alive or in parts and derivatives. Buying, selling, bartering, exchanging, importing, exporting, or re-exporting may be involved in this process

On the other hand, wildlife trafficking involves the illegal trade of protected species of wild animals and plants, as well as derivatives and products thereof. The term includes, but is not limited to, importing, exporting and re-exporting in violation of the relevant law(s). International and/or domestic laws may prohibit the trade in wildlife

4.1 Role of aerodrome operators in combatting illegal wildlife trafficking operations

Aerodrome operators play a crucial role in combatting illegal wildlife trafficking operations. As key transportation hubs, airports can serve as points of entry or exit for wildlife and wildlife products being illegally traded. Here are some important roles that airports can undertake to combat illegal wildlife trafficking:

1. Enhanced Security and Enforcement:

- a) Strengthen security measures to detect and intercept illegal wildlife and wildlife products. This can involve training airport staff, including security personnel and customs officers, to identify signs of wildlife trafficking.
- b) Collaborate with law enforcement agencies, such as customs, police, and wildlife authorities, to coordinate efforts in monitoring and enforcing wildlife protection laws.
- c) Use advanced technologies, such as scanners, sniffer dogs, and X-ray machines, to aid in the detection of hidden wildlife products.

2. Intelligence Gathering and Information Sharing:

- a) Establish mechanisms for gathering and sharing intelligence on wildlife trafficking activities, routes, and trends.
- b) Collaborate with international organizations, such as INTERPOL and CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), to exchange information and intelligence on wildlife trafficking networks.
- c) Foster partnerships with other airports, both domestically and internationally, to share best practices and coordinate efforts in combating wildlife trafficking.

3. Capacity Building and Training:

- a) Conduct training programs for airport staff to increase their awareness and knowledge of wildlife trafficking, including the identification of protected species and common smuggling techniques.
- b) Train relevant personnel, such as customs officers and security staff, in the proper handling and reporting of suspected wildlife trafficking incidents.
- c) Provide specialized training to law enforcement agencies involved in wildlife protection and investigation.

4. Collaboration with Stakeholders:

- a) Establish partnerships with wildlife conservation organizations, government agencies, and NGOs to strengthen wildlife protection efforts.
- b) Engage with local communities to raise awareness about the importance of wildlife conservation and the negative impacts of wildlife trafficking.
- c) Collaborate with airlines, freight forwarders, and cargo handlers to implement best practices and protocols for the detection and prevention of illegal wildlife trafficking in air cargo.

5. Public Awareness and Education:

1. Implement public awareness campaigns within the airport premises, such as signage, displays, and educational materials, to educate passengers and visitors about the consequences of wildlife trafficking and the importance of protecting biodiversity.
2. Provide information on reporting mechanisms for suspected wildlife trafficking incidents and encourage the public to report any suspicious activities

4.2 Development of wildlife trafficking prevention plans

Aerodrome operators are encouraged to develop and maintain wildlife trafficking prevention plans, which can be incorporated as part of the aerodrome's biodiversity protection plan.

The structure of wildlife trafficking prevention plans should follow the same structure of biodiversity protection plans described in section 3 of this document.

GACA Contact:

For any further information, please contact General Directorate of Environmental Sustainability at envi@gaca.gov.sa.

H.M



**EVP, Aviation Safety & Environmental Sustainability
Captain/ Sulaiman Saleh Almuhaimeedi**