NAMIBIA CIVIL AVIATION AUTHORITY

Advisory Pamphlet (AP)

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WILDLIFE HAZARD ASSESSMENT

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2. ***Effective date:*** _____

NAMIBIA CIVIL AVIATION AUTHORITY
NCAA
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WINDHOEK

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1. INTRODUCTION AND BACKGROUND

1.1. Introduction and Background

NAMCARS, Part 139 requires an operator of a certified or licensed aerodrome to have in place a Wildlife Management programme that includes assessment of the wildlife strike hazard on, or in the vicinity of an aerodrome to minimize the effects of such hazard or potential hazard.

1.2. Purpose

This Advisory Pamphlet (AP) provides guidance to Aerodrome Operators on the conduct of wildlife hazard assessment to support the development of an environment programme to meet the requirements for NAMCARs, Part 139 and the associated technical standards.

1.3. Applicability

This advisory pamphlet is applicable to all aerodromes in Category A, Category B and Category C.

1.4. Description of Amendments

There are no amendments.

2. REQUIREMENTS AND REFERENCES

2.1. Regulatory reference

- NAMCARs, PART 139.16.5

2.2. Reference documents

- Namibia Civil Aviation Regulations (NAMCARs) 2018

3. REQUIREMENTS FOR WILDLIFE HAZARD ASSESSMENT

3.1. Initial Assessment

NAMCARS 139.16.5 requires the applicant for an aerodrome certificate or license to establish a programme to minimize the effects of hazards posed or likely to be posed by bird and wildlife. In order to comply with this regulation, the aerodrome needs as a first step to assess the existence and level of hazard posed or likely to be posed by bird and wildlife. The initial Wildlife Hazard Assessment, conducted by a wildlife specialist, provides the scientific basis for the development and implementation of an Environment Management Programme. Based on the initial assessment, the aerodrome operator will then be able to develop the bird and wildlife and control measures required to address the identified hazards or potential hazards.

3.2. Continuous Assessment

NAMCARS 139.16.5 requires the holder of an aerodrome certificate or license to maintain the programme established to minimize the effects of hazards posed or likely to be posed by bird and wildlife. In order to comply with this regulation, the aerodrome operator needs to maintain current its understanding of the type and level of hazard or potential hazard posed or likely to be posed by bird and wildlife. Such hazard or potential hazard may change due to the type of traffic, habitat, land use or other factors that may affect the movement of bird and wildlife on, and in the vicinity of the aerodrome. The continuous review of the Wildlife Hazard Assessment, conducted by a wildlife specialist, provides the scientific basis for the refinement and maintenance of the Environment Management Programme.

4. STRUCTURE OF THE INITIAL WILDLIFE HAZARD ASSESSMENT

4.1. Outline of the structure of the initial wildlife hazard assessment

An initial wildlife hazard assessment shall include as minimum the following steps:

a) A description of the wildlife species;

b) Identification of the features that may attract bird or wildlife;

c) Description of the wildlife hazards or potential hazards to aircraft operating to or from the aerodrome; and

d) Recommended actions for reducing identified wildlife hazards to aircraft operating to or from the aerodrome.

4.1.1. STEP 1: A description of the wildlife species

The applicant for an aerodrome certificate or license identifies wildlife species that have access to the airport, their numbers, locations, local movements, and daily and seasonal occurrences. In most cases, a 12-month assessment would need to be conducted so the seasonal patterns of birds and other wildlife using the airport and surrounding area during an annual cycle can be properly documented. Observations of wildlife at an airport and surrounding areas limited to a few days in a single season generally cannot adequately assess hazardous wildlife issues and associated habitat attractants. In all cases, the study shall indicate the duration of the observation and how the selected duration allows for adequate assessment of the wildlife species, their numbers, locations local movements and daily and seasonal occurrences.

In order to adequately identify the wildlife species, NCAA recommends that standardized survey procedures be used. These standardized procedures should provide an objective assessment of hazardous wildlife in the airport environment that can be repeated in future years for comparative purposes. One objective procedure for assessing bird populations is the establishment of standardized survey points about 1 kilometer apart throughout the area of authority. Assigning each bird or bird flock observed during a point count to a grid location can be useful in further refining spatial distributions of birds on the airport. Additional survey points may be established in nearby off-airport areas suspected of attracting hazardous birds that move across the area of authority. Standardized counts of birds should be made at each of these survey points at least twice monthly. In addition, specialized surveys might be needed as part of the overall assessment to document large-to-mid-sized mammals, and small mammals, on the airport. These specialized mammal surveys should be conducted at least twice during a 12-month Wildlife Hazard Assessment.

4.1.2. STEP 2: Identification of the features that may attract bird or wildlife

Wildlife are attracted to an airport because something exists on or near the airport that they desire, such as large open areas where they can loaf in relative safety; abundant food or water; and escape, loafing, or nesting cover. The wildlife hazard assessment shall identify and evaluate potential attractants to include: waste disposal, water management facilities, wetlands, confined disposal facilities, agricultural activities (livestock, aquaculture, farming Etc.), golf course, landscaping or any other specific land-use activities that may attract wildlife.

4.1.3. STEP 3: Description of the wildlife hazards or potential hazards to aircraft operating to or from the aerodrome

The applicant for an aerodrome certificate or license specifies the wildlife hazards or potential hazards identified in STEP 1, considering the attractants identified in STEP 2. The wildlife hazards or potential hazards can be categorized based on their probability and severity. An example of classification of the hazards is given below indicating the probability of occurrence, its severity if it occurs and the combination of probability/severity:

Probability

Qualitative Definition	Meaning	Value
Frequent	Likely to occur many times (has occurred frequently)	3
Occasional	Likely to occur sometimes (has occurred infrequently	2
Remote	Unlikely, but possible to occur (has occurred rarely)	1

Severity

Qualitative definition	Meaning	Value
Major Damage	Aircraft may incur damage or structural failure that adversely affect the structure strength, performance, or flight characteristics and that would normally require major or replacement of the affected component or make it inadvisable to restore aircraft to airworthy condition.	C
Damage	Aircraft may incur at least some damage (destroyed, substantial, minor or unknown) from strike	B
Effect on flight	Aborted takeoff, engine shutdown, precautionary landing, or other	A

Probability / Sererity

		Severity		
Probability		Major damage C	Damage B	Effect on flight A
Frequent	3	3C	3B	3A
Occasional	2	2C	2B	2A
Remote	1	1C	1B	1A

A colour coding may be used to indicate what is intolerable (Red – unacceptable under the existing circumstances), tolerable (Yellow – acceptable based on mitigation measures to control wildlife) or acceptable (Green – acceptable)

4.1.4. STEP 4: Recommended actions for reducing identified wildlife hazards to aircraft operating to or from the aerodrome

The aerodrome operator presents the wildlife control measures to address the hazards or potential hazards identified in STEP 3. Wildlife control measures are generally:

- Aircraft schedule modification: Although not generally practical for regularly scheduled commercial traffic on larger airports, there may be various situations when flight schedules of some aircraft can be adjusted to minimize the chance of a strike with a wildlife species that has a predictable pattern of movement.

- Habitat modification and exclusion: Habitat modification means changing the environment to make it less attractive or inaccessible to the problem wildlife. All wildlife requires food, cover, and water to survive. Any action that reduces, eliminates, or excludes one or more of these elements will result in a proportional reduction in the wildlife population at the airport. Habitat modifications to make the airport and surrounding area as unattractive as possible to hazardous wildlife must be the foundation of every airport's Environment Management Programme.
- Repellent and harassment techniques: Repellent and harassment techniques are designed to make the area or resource desired by wildlife unattractive or to make the wildlife uncomfortable or fearful
- Wildlife removal: if legally allowed for the species being considered, wildlife removal may include: capturing, destroying eggs and nests, shooting, oral or contact toxicants, fumigants, lethal traps, etc.