

CRITICAL HABITAT ASSESSMENT FOR THE IWA 220 MW HYBRID PROJECT IN MAURITANIA

Draft Report
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1. Executive summary

This report presents the final draft of the Critical Habitat Assessment (CHA) for the for the Solar PV and BESS components of the WA 220 MW Hybrid Project (the Project), prepared in alignment with International Finance Corporation (IFC) Performance Standard 6 (PS6). For the Wind component, it should be considered as preliminary, before the completion of the ongoing bird monitoring. It is based on the environmental and biodiversity data currently available. The purpose of the CHA is to assess the potential presence of biodiversity features that may qualify as Critical Habitat (CH), determine the presence of Natural Habitat, and identify any overlap with, or potential interaction with, Protected Areas and Internationally Recognized Areas that may require specific consideration and mitigation under IFC PS6.

The CHA was carried out using two Ecologically Appropriate Areas of Analysis (EAAAs), one for Resident Species, and another for Migratory Birds. Based on the information available to date, the draft CHA indicates that:

- No Critical Habitat (CH) has been identified for the Project. None of the species screened meets the IFC PS6 thresholds under Criteria 1 to 5 within the Resident Species EAAA. The Spotted Hyena (*Crocuta crocuta*) is listed as Least Concern globally and Vulnerable nationally (Brito et al. 2022). Criterion 1 applies to Critically Endangered and Endangered species, so the Spotted Hyena does not trigger Critical Habitat. Any occasional use of the wider landscape by the species is addressed under Natural Habitat management in the ESIA and ESMP.

- Up to now, Migratory Soaring Birds (MSBs) have been recorded in low numbers well below the IFC PS6 Criterion 3 thresholds. The most frequently recorded species, Black Kite (*Milvus migrans*), totaled 333 individuals over the spring 2026 campaign, against a Critical Habitat threshold of about 60,000 individuals (1% of the minimum global population). Autumn 2026 results to date are consistent with these findings; the campaign closes in early November 2026 and its results will be incorporated in the final CHA.

- The Project area and the wider EAAA comprise predominantly Natural Habitat, in the form of open sand and gravel plains used for extensive livestock grazing. This habitat type is widespread across the Saharan Atlantic Coastal Desert ecoregion and grades into Modified Habitat towards the urban fringe of Nouakchott; and,

- The Project does not occur within an Internationally Recognized or Protected Area. The nearest Internationally Recognized Area is the Aftout es Sâheli Key Biodiversity Area (KBA)/Important Bird Area (IBA), approximately 2 km to the west of the Project boundary.

In line with PS6 (paragraph 15), the Project will apply the mitigation hierarchy within Natural Habitat and aim to achieve No Net Loss (NNL) of biodiversity where feasible.

Proportionate monitoring will confirm that the Project does not affect the biodiversity values for which the KBA/IBA is recognized. The main measures are:

- Overflights of the Project area by KBA/IBA waterbirds is not ruled out. Standard mitigation design (e.g. bird flight diverters on the Project overhead line) and operational monitoring will be set out in the Project's Biodiversity Management Plan (BMP) according to IFC-EBRD (2023b) guidelines.
- A one-month targeted survey during the December 2026–January 2027 wintering peak, will confirm whether waterbirds from Aftout es Sâheli regularly cross the Project area. A spring 2027 campaign will complement the spring migration data to give full-season coverage for the wind component, for which construction will start by mid-2028.
- Post-construction bird and bat fatality monitoring will be carried out for the wind and solar components over at least the first two years of operation, with adaptive measures (such as shutdown on demand) applied where warrant (IFC-EBRD, 2023b) results. Recent work suggests that the 'lake effect' reported at some utility-scale PV sites may partly reflect differences in technology and survey design rather than a true attraction effect (Kosciuch et al. 2025).
- Spotted Hyena (nationally Vulnerable): simple verification measures, namely community interviews and opportunistic camera trapping during pre-construction surveys, will document any use of the Project area. Results will feed into standard ESMP measures such as pre-clearance checks, fence design and waste management that avoids attracting scavengers.

The Project's biodiversity mitigation and management strategy should be further developed following completion of the ongoing bird migration monitoring and finalization of the CHA. The appropriate biodiversity management instrument(s), namely a Biodiversity Management Plan (BMP) consistent with the PS6 requirements for Natural Habitat, should define the mitigation hierarchy, monitoring requirements and conservation measures necessary to address identified biodiversity risks and residual impacts.

2. Introduction

IWA has commissioned ESG Africa to undertake a Critical Habitat Assessment (CHA) for the Hybrid Solar and Wind + BESS facility (the Project) in alignment with International Finance Corporation (IFC) Performance Standard 6 (PS6) (IFC 2012, 2019).

A CHA is a key component of full alignment with IFC PS6, and forms an integral part of the Project's overall framework for managing biodiversity risk. This CHA:

- Identifies Critical Habitat as defined by IFC PS6;
- Identifies Natural and Modified Habitat as defined by IFC PS6;

- Confirms the Project's location in relation to relevant Legally Protected Areas (LPAs) and Internationally Recognized Areas (IRAs);
- Outlines the implications of the findings of the CHA for the Project; and
- Identifies the recommended next steps for the Project.
- This Critical Habitat Assessment (CHA) serves as a final draft for the Solar PV and BESS components of the project. For the Wind Energy component, however, the assessment will be finalized once the remaining avian monitoring described below has been completed. Data collected to date do not indicate Critical Habitat for the wind component:
- Spring Migration bird monitoring: Partial spring migration monitoring was carried out from 10 April to 10 May 2026, including Black Kite and European Honey-buzzard. A complementary campaign is planned for spring 2027 to extend coverage to the early part of the season.
- Autumn Migration bird monitoring: The autumn 2026 campaign is actively ongoing and will conclude in early November 2026.
- Winter bird monitoring: Targeted monitoring for at least 1 month between December 2026 and January 2027 is recommended to assess potential bird movements between the Project area and the Aftout es Sâheli, including the frequency, direction and, where feasible, flight characteristics of such movements.

2.1 Project overview

The project involves the construction of a hybrid renewable energy plant developed by Istithmar West Africa (IWA) in the Toujounine Moughataa, Nouakchott North Region, in the Islamic Republic of Mauritania. It is part of the national program aimed at sustainably strengthening the country's electricity generation capacity, improving access to reliable energy, and accelerating the transition toward an energy mix that relies more heavily on renewable sources. The energy complex will comprise:

- A 160 MWp solar photovoltaic plant;
- A 60 MW wind farm comprising twelve turbines;
- A 185 MW / 370 MWh battery energy storage system (BESS),
- A 33/225 kV substation with a transmission line connecting to the SOMELEC grid;

A suite of avifaunal surveys, including migratory bird surveys in spring and autumn of 2026, are being undertaken for the Project's Environmental and Social Impact Assessment (ESIA).

2.2 The Project's ecological context

The Project is in the Sahara Atlantic Coastal Desert Ecoregion (Naia and Brito 2021, Dinerstein et al. 2017), **Erreur ! Source du renvoi introuvable.**. Ecoregions represent distinct geographic areas characterized by unique combinations of natural communities and species that reflect the local ecology. It covers about 39,615 km², forming a narrow terrestrial corridor flanking the Atlantic coast of southern Morocco and Mauritania. This arid landscape supports a specialized flora of succulents and other drought-tolerant vegetation, alongside a diverse array of endemic reptiles. The Project occurs within the Mediterranean West Atlantic flyway for migratory soaring birds (MSBs) and East Atlantic flyway for waterbirds, which connects breeding grounds in Europe with wintering areas in Africa (BirdLife International 2015). Over 14 million individuals from around 300 species of migratory birds, including a suite of migratory passerines and other bird groups (BirdLife International 2015), use these flyways. Pressures on the ecoregion are concentrated along the coastal axis, around urban centers and along the main paved highway linking North Africa with sub-Saharan Africa.

The Saharan Atlantic Coastal Desert ecoregion occupies the westernmost fringe of the Sahara Desert, forming a narrow coastal corridor approximately 50 km wide that parallels the Atlantic Ocean (Figure 2). Geographically distributed across southern Morocco and Mauritania, the ecoregion spans roughly 1,300 km of coastline, from Laâyoune southward to a point approximately 50 km south of Nouakchott.

The ecoregion is characterized by a hot, hyper-arid climate with low, episodic precipitation patterns. Rainfall seasonality varies with latitude, occurring primarily as winter rain in northern areas and monsoonal summer rain in southern zones. Moisture-saturated Atlantic winds frequently generate heavy morning condensation, creating microclimatic conditions that support extensive lichen communities on shrubs and bare ground surfaces between vascular plants. According to Fick and Hijmans (2017), mean annual precipitation is 39 mm, exhibiting a north-to-south gradient that ranges from a hyper-arid 21 mm at the Cap Blanc Peninsula to 110 mm in the south. Mean temperatures across the ecoregion exhibit a distinct north-to-south gradient. The mean maximum temperature of the warmest month ranges from 26°C to 37°C (averaging 32°C) with peak summer heat in the extreme south, while the mean minimum of the coldest month drops to between 12°C and 16°C (averaging 13°C) in the north. This drives a mean annual temperature range that expands from 20°C in the north to 27°C in the south near Nouakchott, maintaining a regional average of 23°C (Trabucco and Zomer 2018).

Phytogeographically, the ecoregion sits within the Sahara regional transition zone, supporting a denser vegetation cover and higher species richness than interior desert regions due to moisture-laden ocean winds (White 1983). The flora transitions along a latitudinal and ecological gradient. In its Southern zone, where the project is, it is characterized by arid-adapted trees and shrubs, including *Acacia tortilis*, *Maerua crassifolia*, *Salvadora persica*, and *Balanites aegyptiaca*. The coastal fringe nearby, see LPAs and IRAs section, is

dominated by halophytic communities belonging to the Genus *Suaeda*, *Atriplex*, and *Zygophyllum*.



Figure 1 : Typical habitat of the project area (photo A. Camina, September 2026).

2.3 Constraints and limitations

The assessment draws on Project documentation prepared by the previous ESIA consultants, publicly available information on Mauritanian fauna and biodiversity, relevant scientific literature, and global biodiversity datasets accessed through the Integrated Biodiversity Assessment Tool (IBAT).

Stakeholder consultation was undertaken specifically for the CHA with relevant local institutions and experts: Parc Diawling, Parc Banc d'Arguin; Nature Mauritanie. Other consulted experts have been Dr. Ahmedou Ould Soulé (botanist) from the Ecole Normale Supérieure de Nouakchott; Zeine El Abidine Sidatt is a researcher and biologist affiliated with CIBIO (Centro de Investigação em Biodiversidade e Recursos Genéticos) who works on the biodiversity, conservation, and zoology of Mauritania and the Maghreb; M. Béchir N'Diath, an environmental professional and coordinator associated with the IUCN; and The Réseau des Acteurs pour la Protection du Littoral Mauritanien (RASLIM), a civil society network established in Nouakchott, Mauritania, to coordinate efforts for protecting the country's 700-kilometer Atlantic coastline.

All Project infrastructures were inside the footprint boundaries (particularly the OHTL, PV plant, turbines and BESS) at the time of developing this CHA. PS6 is clear that 'associated infrastructure' is considered in the CHA (e.g. GN5, GN9: IFC 2019) and the conclusions of this CHA may change if any associated infrastructure extends beyond the Project boundary and results in a revised EAAA.

2.4 Definition categories considered

IFC PS6 identifies three categories of habitat: Natural Habitat (NH), Modified Habitat (MH) and Critical Habitat (CH) which is based on (i) habitat condition (or 'quality' or 'state') and (ii) significance for biodiversity (IFC 2012, 2019).

2.4.1 Critical Habitat

Areas of "high biodiversity value" are termed CH by IFC. There are five criteria by which CH is defined in PS6:

- Criterion 1: Habitat of significant importance to Critically Endangered and/or Endangered species;
- Criterion 2: Areas of significant importance to endemic and/or restricted-range species;
- Criterion 3: Area supporting globally significant concentrations of migratory species and/or congregatory species;
- Criterion 4: Highly threatened and/or unique ecosystems;
- Criterion 5: Areas associated with key evolutionary processes or of key scientific value;

Criteria 1-3 are species-specific and assessed against quantitative thresholds, further details of which are provided in the relevant guidance note. Criterion 4 refers to threatened ecosystems and applies quantitative thresholds (IFC 2019). Criterion 5 is assessed qualitatively based on expert opinion. PS6 requires a Net Gain for Critical Habitat-qualifying features.

2.4.2 Natural and Modified Habitat

Under IFC PS6, habitat condition is classified as either Natural or Modified based on the extent of human modification of the ecosystem. For example, agricultural areas, plantations and urban areas show "substantial modification" and would be classed as Modified Habitat, whereas woodlands exploited for non-timber forest products or grasslands that retain most of the original species and ecological processes would in most cases be considered Natural Habitat. In practice, Natural and Modified Habitats exist on a continuum from largely untouched, pristine habitats, to intensively managed Modified Habitats (IFC 2019).

PS6-compliant projects must design mitigation strategies that can achieve No Net Loss (NNL) for NH, where feasible, and this requirement for NNL can extend to populations of threatened species supported by a specific habitat.

2.4.3 Legally Protected Areas and Internationally Recognized Areas

IFC PS6 requires projects in Legally Protected Areas (LPAs) and Internationally Recognized Areas (IRAs) to be developed in line with any government-recognized management plans, be

legally permitted, and implement additional programs to promote and enhance the conservation aims and effective management of those areas. These requirements (PS6 paragraph 20) apply to projects located within such areas. The Project lies outside any Legally Protected or Internationally Recognized Area, so the relevant consideration is to avoid significant indirect effects on the nearby Aftout es Sâheli KBA/IBA.

3. Methodology

3.1 Ecologically Appropriate Area of Analysis

In line with IFC PS6 Guidance Note 6 (IFC 2019), a CHA should be carried out for an Ecologically Appropriate Area of Analysis (EAAA), defined considering the distribution of species or ecosystems (within and sometimes extending beyond the project's area of influence) and the ecological patterns, processes, features, and functions that are necessary for maintaining them. This means EAAAs are usually at a scale larger than a project site or impact area. Such a precautionary approach ensures that the EAAA considers the area in which most potential risks from a Project could occur. For this CHA, two EAAAs were designated, one for flora and resident fauna (the 'Resident Species EAAA'), and a second for migratory birds (the 'Migratory Birds EAAA').

Figure 2 The location of the Project (source: client-provided data), and the two Ecologically Appropriate Area of Analyses delineated for this Critical Habitat Assessment and Ecoregions

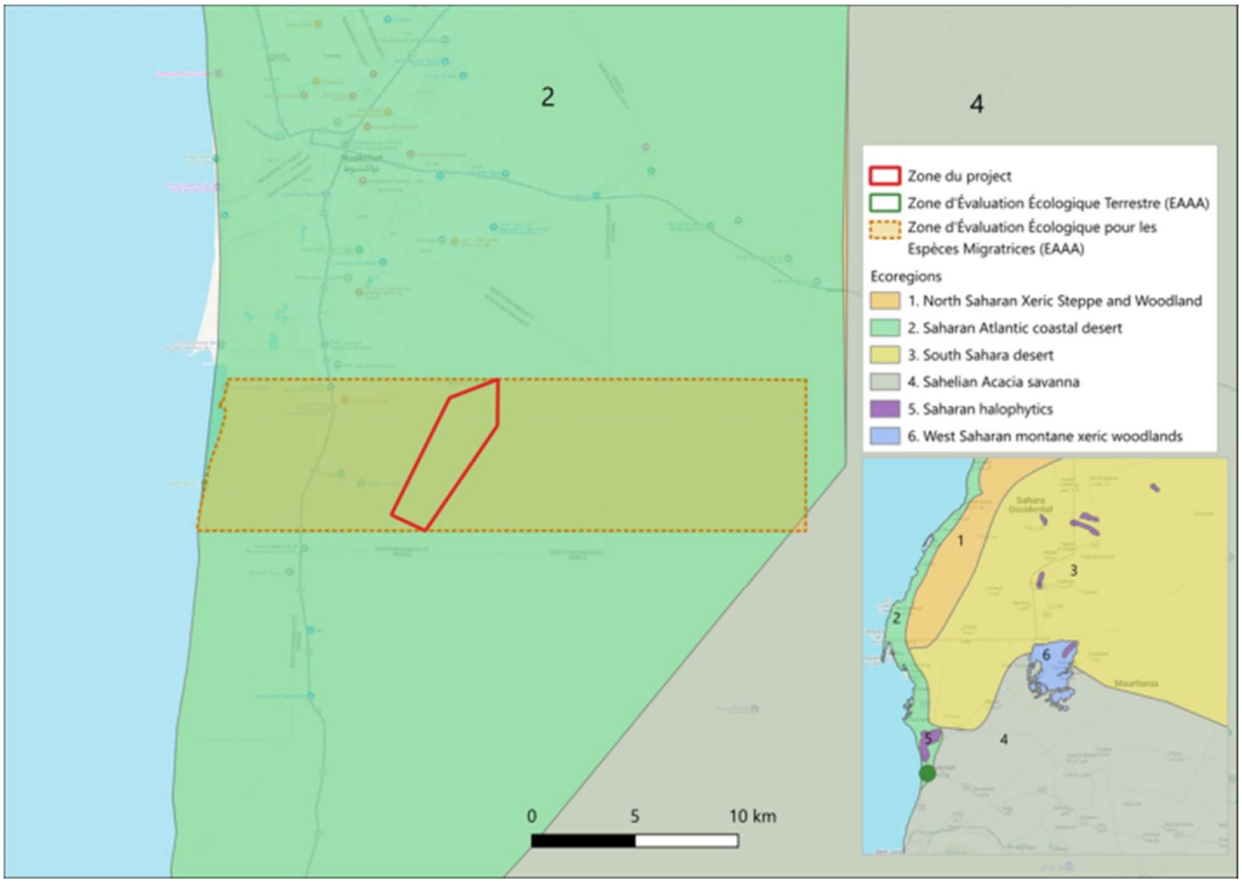
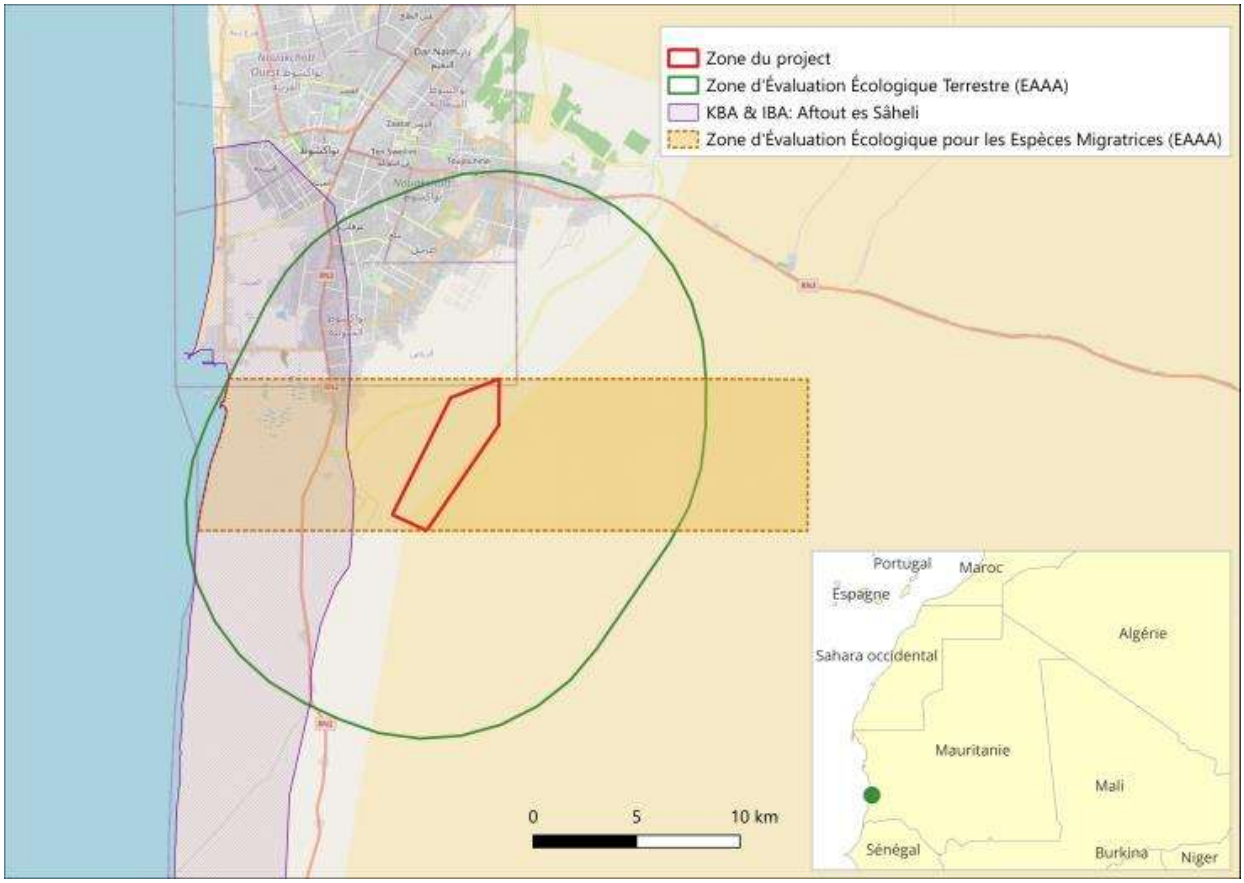


Figure 3: The location of the Project (source: client-provided data), the two Ecologically Appropriate Area of Analyses delineated for this Critical Habitat Assessment, and Internationally Recognized Areas.



3.1.1 Resident Species EAAA

The Resident Species EAAA was initially designated as the Project concession area plus a buffer distance of 10 km around the project area. A minor change was made in the Project footprint following the Site Supervision Visit in mid-September, slightly increasing the size and shape of the Project area, due to the location of the project offices. Within this buffer, the dominant habitats within the Project area were used to refine the EAAA.

At landscape level, habitat condition follows a northeast to south-west gradient across the Resident Species EAAA. To the east, the landscape consists of open sand and gravel plains with sparse native vegetation, used for extensive camel and small-livestock grazing. It is classified as Natural Habitat under PS6, although it shows clear signs of pastoral use (tracks, grazing pressure and livestock carcasses). To the west and south-west, it grades into Modified Habitat towards the peri-urban fringe of Nouakchott, where built development, roads and other infrastructure dominate. The Project area itself lies mainly within Natural Habitat of this widespread type.

Based on current IUCN Red List criteria (2012), no amphibian species recorded in Mauritania is classified as CR, EN, VU, or range restricted (Martinho Sampaio 2017). Regionally, the primary threat to amphibian biodiversity is the high vulnerability and degradation of localized aquatic refugia, specifically ephemeral desert pools (gueltas). While regional species classifications may change as taxonomic and ecological research advances, the project area completely lacks aquatic or semi-aquatic habitats. Consequently, the project footprint does not support conditions necessary for amphibian presence, and no significant adverse impacts or Critical Habitat triggers are anticipated for this taxonomic group.

Finally, Padial (2006) stated that Mauritania harbors 86 species of reptiles belonging to 21 families. Among these families, Colubridae and Lacertidae are the most diverse, with 14 and 13 species respectively. Within the immediate Nouakchott vicinity, there are currently no globally recognized threatened, endangered, or highly range-restricted reptile species documented to inhabit the footprint. IBAT screening and the national literature (Padial 2006) do not identify any Critically Endangered, Endangered or restricted-range reptile species whose range overlaps the Resident Species EAAA. During project specific baseline surveys, the only reptile species recorded within the project's direct footprint was the Saharan Horned Viper (Cerastes cerastes), a widespread, sand-dwelling species currently listed as Least Concern (LC) on the IUCN Red List. The reptile community is therefore not considered to trigger Critical Habitat. Standard pre-clearance checks and relocation of reptiles found within work areas will be applied during construction under the ESMP.

Mammalian baseline data for this assessment was established following the taxonomic framework of Brito et al. (2022). The updated inventory lists 107 species, including 12 Regionally Extinct (RE) and 2 Extinct in the Wild (EW) taxa, leaving 93 extant species. Spatial distribution mapping identifies national mammal diversity hotspots, concentrated along coastal areas, the Senegal River valley, and mountain plateaus.

3.1.2 Migratory Bird EAAA

The Project lies within the broad extent of two major migratory flyways:

- The East Atlantic Flyway, one of the world's major global migratory corridors for waterbirds and shorebirds. It connects the breeding grounds in the Arctic and northern Europe with wintering grounds in West and Southern Africa. Mauritania serves as a bottleneck and "refueling station1 along this Flyway, with the tidal mudflats of Banc d'Arguin National Park to the north and the Senegal River Delta to the south.

[1]10 kms is double the maximum recorded territorial movement for Northern Wheatear *Oenanthe oenanthe* (~4.7 km: Arlt & Pärt 2008) and the slightly greater than the maximum home range diameter recorded of ~9.5 km for Red Lark *Calendulauda burra* (Kemp et al. 2024).

Waterbirds movements along this flyway are concentrated on the coastline and its wetlands, whilst the use of the inland desert plains where the Project is located is under monitoring.

- The Mediterranean-West African Flyway, a broad-front migratory corridor utilized annually by millions of Western Palearctic land birds and migratory soaring raptors (MSBs). This route connects breeding grounds in western and central Europe with the wintering ones in the West African Sahel. Unlike coastal migrants, species on this flyway cross the Mediterranean directly navigating across the severe ecological barrier of the Sahara Desert. Migrants landing after the desert crossing tend to use vegetated coastal fringes and inland oases, which do not occur in the Project area. Seasonal passage is nonetheless taken into account in the Project's collision-risk assessment.

As migratory birds travel parallel to the coast along the flyway, the northern and southern extents of the Migratory Bird EAAA are less important, i.e. the width does not materially affect the analysis, which is based on the numbers of birds recorded passing through the Project area. Its nominal width was slightly wider than that of the Project. This approach to designating a Migratory Bird EAAA aligns with the recent guidance note on how to interpret airspace for Critical Habitat determination (IFC & EBRD 2023a).

The current migratory bird monitoring has reported only one soaring bird species, the Black kite (*Milvus migrans*) crossing at height. Soaring bird species have not been reported as resting on the ground during field surveys or adjacent sites. The bird monitoring has been undertaken partially for spring (April 10th – May 10th), with the period mid-February to mid-April still to be completed in 2027 in order to cover the entire migratory period. The autumn monitoring campaign is currently ongoing, and will be finalized by early November 2026. The outcomes, coupled with the review of birds tracked for years with satellite transmitters, suggest that soaring birds avoid crossing the desert plains. (e.g. Buechley et al. 2018; Phipps et al. 2019)

The terrain extending immediately to the north and east of Nouakchott is dominated by expansive, low-relief desert plains that form a vast, topographically flat landscape. This low-lying sub-coastal zone is primarily composed of the Aftout depression and extensive sand sheets, characterized by low, longitudinal dunes (ergs) interspersed with localized saline flats (sebkhas) and gravelly plains (regs). The topography remains remarkably uniform, with elevations close to sea level (0 to 50 meters above sea level). As one moves further inland, this flat plain continues uninterrupted for over a hundred kilometers, maintaining a very gradual, almost imperceptible gradient. The transition to higher elevations occurs far from the city footprint, where the desert plains give way to a step-like increase in altitude, culminating in the rugged sandstone escarpments and massifs of the Adrar and Tagant plateaus deep in the interior. Because the immediate project area and its wider surroundings are topographically open and flat, the landscape lacks major geographic barriers or complex micro-topography, offering a uniform broad-front. This terrain offers no topographic feature, such as a ridge, coastline or strait, that would concentrate soaring-bird passage over the Project area.

The soaring bird community subject to monitoring additionally comprises the White Stork (*Ciconia ciconia*), Black Stork (*Ciconia nigra*), European Honey-buzzard (*Pernis apivorus*), Egyptian Vulture (*Neophron percnopterus*), Western Marsh Harrier (*Circus aeruginosus*), Short-toed Snake-eagle (*Circaetus gallicus*), and Booted Eagle (*Hieraaetus pennatus*). Within this arid landscape, migratory rest stops are highly fluid, exhibiting substantial spatial and temporal variability; as a result, stopover behavior remains largely unpredictable across the wider region, with the exception of predictable congregations at established inland oases and rocky plateaus. Notably, despite high potential food availability, migrating necrophagous (scavenging) raptors have not been observed feeding at the active carcass disposal site located at the Camel Market, approximately 8 km north of the project boundary (pers. obs.). This lack of localized foraging behavior is further corroborated by the presence of several fresh and decomposing livestock carcasses found entirely untouched by avian scavengers within the resident EAAA, suggesting that the immediate project vicinity does not currently function as a critical or preferred stopover site for carrion-eating migratory raptors (Camiña-Cardenal et al. 2024)

The Migratory Bird EAAA would qualify as Critical Habitat if any migratory species demonstrated, or was reasonably expected on the basis of adequate evidence, to meet the applicable IFC PS6 thresholds within the EAAA. The Project's location within an internationally important migratory area provides relevant context for the assessment and supports the need for appropriate consideration of migratory bird values; however, it does not in itself establish Critical Habitat. Critical Habitat determination under PS6 is based on the applicable criteria and thresholds, including, where relevant, the proportion of a species' global population occurring within an appropriately defined EAAA (IFC, 2019).

3.2 Analysis

A full list of biodiversity values, excluding migratory species, which overlapped with the Resident Species EAAA was obtained via IBAT and specific scientific recent literature, while a full list of migratory species that overlapped with the Migratory Bird EAAA was also obtained from updated scientific literature like the yearly migratory counts at the Strait of Gibraltar, the main bottleneck between Europe and Africa (Onrubia and Tellería 2026, Arcilla and di Lecce 2026, Oudman 2020, Martin et al. 2015) and threatened statuses (Garrido et al. 2021). An initial review of species was conducted for both lists to screen out those species which would clearly not meet relevant thresholds (e.g. due to the low level of overlap between the EAAA and the species' range, habitat unsuitability, or because they are known to be extinct in the EAAA). The resulting shortlist of species was then assessed using available information against the applicable CH criteria and thresholds (following IFC 2019), noting that species may be screened against multiple criteria. Information sources reviewed in the assessment included the:

- Previous documents developed for the Project, particularly migratory bird survey information in the Environmental & Social Impact Assessment (ESIA) (ESG Africa and HPR ANKH Consultants 2026);

- Ongoing bird migration surveys in spring (April-May 2026) and autumn (August-November);
- Scientific literature in the region (Brito et al. 2014, 2022; Naia and Brito 2021)
- The Migratory Soaring Birds Tool (BirdLife International 2023), filtered by species mapped as occurring in the project area; and,
- Publicly available data from eBird records within Mauritania.

A precautionary approach was taken to assess the importance of migratory bird counts. The percentage of the global population was based on the lowest estimate of the global population published by IUCN (most bird population estimates have substantial confidence intervals). For some species, this figure may significantly underestimate the real global population size.

Species were categorized, based on available evidence for whether they are CH qualifying, as:

- Certain – where the available data demonstrate exceedance of CH threshold(s) (e.g. based on numbers already confirmed by field verification);
- Likely – where the available evidence (e.g., range overlap and habitat suitability) suggests that species' presence in the EAAA is likely to exceed CH threshold(s), but where there is no direct field verification yet;
- Possible – where:
- the available evidence (e.g., range overlap and habitat suitability) suggests that species presence in the EAAA is close to CH threshold(s);
- there is the potential for the EAAA to have a higher proportion of the population than average; or,
- suitable habitat for a species is present in the EAAA, but the species' range or abundance is poorly understood and no targeted surveys have been undertaken to determine the species' status in the Project area or EAAA; or,
- Does not qualify – where the available evidence indicates that CH threshold(s) would not be exceeded.

4. Results of the CHA

4.1 Criterion 1: Endangered (EN) and Critically Endangered (CR)

After Brito et al. (2022) there were 10 mammal species classified as nationally threatened. Four primary geographic zones have been identified as harboring these key species of

conservation concern. These regional baselines were systematically screened against the project's terrestrial EAAA. Following a comprehensive habitat suitability and spatial overlay analysis, all except one regional priority species—including Ammotragus lervia, Papio papio, Praomys cf. daltoni, Panthera pardus, Hippopotamus amphibius, Leptailurus serval, Addax nasomaculatus, Gazella dorcas, and Eudorcas rufifrons—were formally discarded from further assessment. The specific bioclimatic and structural habitat preferences of these species exhibit zero spatial or ecological overlap with the project footprint or the established EAAA.

The Spotted Hyena (*Crocuta crocuta*) was the only species retained for closer screening. Brito et al. (2022) indicate its potential occurrence in the broader region; however, Project-specific occurrence within the EAAA has not yet been verified. The species is listed as Least Concern globally and Vulnerable nationally, with a national extent of occurrence of about 277,800 km² (Brito et al. 2022; Appendix 1). The Criterion 1 thresholds in GN6 apply to globally Critically Endangered or Endangered species, to globally Vulnerable species whose loss would lead to uplisting, and to nationally listed Critically Endangered or Endangered species (IFC 2019). The Spotted Hyena meets none of these, so it does not trigger Critical Habitat. Any occasional use of the landscape will be documented through community interviews and opportunistic camera trapping during pre-construction surveys, and managed through the ESMP.

Most western European soaring birds enter Africa via the Strait of Gibraltar, where about 300,000 raptors and 150,000 storks are counted each year (Martin et al. 2015; Onrubia and Tellería 2026). South of the Sahara these birds disperse over a broad front. Among the soaring species considered, the only globally threatened one is the Egyptian Vulture (EN), which has not been recorded during Project monitoring. The assessment of this and other raptor migratory species and storks, is presented in the Table 1.

Table 1 Migratory Soaring Birds (MSBs) using the East Atlantic Flyway

English Name	Scientific Name
European Honey-buzzard	*Pernis apivorus*
White stork	*Ciconia ciconia*
Black Kite	*Milvus migrans*
Red Kite	*Milvus milvus*
Egyptian Vulture	*Neophron percnopterus*
Griffon Vulture	*Gyps fulvus*
Short-toed Snake Eagle	*Circaetus gallicus*
Booted Eagle	*Hieraaetus pennatus*
Bonelli's Eagle	*Aquila fasciata*
Lesser Spotted Eagle	*Clanga pomarina*
Eastern Imperial Eagle (occasional migrant)	*Aquila heliaca*
Western Marsh Harrier	*Circus aeruginosus*
Montagu's Harrier	*Circus pygargus*

English Name	Scientific Name
Pallid Harrier	*Circus macrourus*
Hen Harrier	*Circus cyaneus*
Eurasian Sparrowhawk	*Accipiter nisus*
Northern Goshawk	*Accipiter gentilis*
Common Buzzard	*Buteo buteo*
Long-legged Buzzard (occasional)	*Buteo rufinus*
Osprey	*Pandion haliaetus*
Lesser Kestrel	*Falco naumanni*
Common Kestrel	*Falco tinnunculus*
Eurasian Hobby	*Falco subbuteo*
Eleonora's Falcon	*Falco eleonorae*
Peregrine Falcon	*Falco peregrinus*

4.2 Criterion 2: Endemic and restricted-range species

No restricted-range species (extent of occurrence below 50,000 km²; IFC 2019) has been identified within the Resident Species EAAA. The only nationally endemic mammal, *Praomys cf. daltoni* (EOO about 5,000 km²), occurs in Northern and East-Northern Mauritania and was screened out in Section 3.3.1 for lack of overlap with the EAAA. IBAT screening identified no restricted-range plant, reptile or bird species overlapping the EAAA.

4.3 Criterion 3: Migratory and congregatory species

Along the Mauritanian coast, Criterion 3 is relevant mainly to waterbirds, which congregate in the coastal wetlands recognized as IBAs (Banc d'Arguin, Aftout es Sâheli and Diawling). A total of 96 waterbird species associated with these coastal sites were screened against the Criterion 3a threshold of regularly supporting at least 1% of the species' global population. (Appendix 2). Regional flyway pathways and underlying population dimensions were defined using the Wetlands International WPE database. The associated flyway definitions, absolute population scales, and numerical 1% Critical Habitat triggers are structured in Appendix II. The Table also shows the qualitative information on the presence of each species in the project area during the ongoing bird monitoring.

Despite the site’s geographic proximity to the KBA/IBA, the terrestrial habitat within the project footprint is entirely unsuitable for highly specialized coastal and marine species. Consequently, waterbird occurrence within the Project boundary is expected to be limited. This negligible exposure is due to two key factors: 1) the Flyway alignment following the shoreline and not extending inland toward the project site and 2) The habitat discontinuity: The habitat within the project footprint lacks the specific marine and intertidal ecological features found in the adjacent IBA/KBA, rendering it incapable of supporting these species.

Based on the monitoring data available to date, none of the Migratory Soaring Birds or waterbirds recorded within the Migratory Bird EAAA seem to meet the applicable IFC PS6 Criterion 3 thresholds.

4.4 Criterion 4: Highly Threatened or Unique Ecosystems

No formal assessment was made against Criterion 4 as there has been no Red List Assessment of Ecosystems within Mauritania. The informal screening of habitats present suggested none would likely satisfy the criterion for consideration as highly threatened or unique (i.e. not highly threatened, which would imply a status of CR or EN: IFC 2019) and no additional information on the status of ecosystems within the ecoregion is available. The habitats within the Project area, primarily sand and gravel plains and shallow wadis appear unlikely to qualify under Criterion 4, based on a qualitative visual analysis using aerial imagery, and a ground truthing survey, due to low risk of significant reduction in their area or quality resulting from the Project, their large spatial extent, and the lack of evidence that they contain unique plant or animal assemblages (with the exception of migrating birds, the area hosts a low diversity of plants and animals. Saltmarshes (sabkhas) do not occur within the Project area and will not be affected by the Project. Sabkhas also appear unlikely to meet IUCN Red List of Threatened Ecosystems criteria.

4.5 Criterion 5: Key Evolutionary Processes

The review of existing information identified no spatial features associated with key evolutionary processes, and along with the lack of restricted range species occurring within the Resident Species EAAA, suggests the Project area would not qualify as CH under Criterion 5.

4.6 Protected Areas (PA) and Internationally Recognized Areas (IRA)

The Aftout es Sâheli Key Biodiversity Area (KBA) and Important Bird Area (IBA) (Site ID: MR006) is situated immediately south of the Nouakchott municipal boundary and approximately 2 km west of the Project boundary at its closest point, **Erreur ! Source du renvoi introuvable.**. It spans an estimated 58,000 hectares of long, narrow coastal depression spanning 165 km south of Nouakchott to 60 km north of St. Louis, with a width of 5 to 10 km and a position 1 to 1.5 meters below sea level. Its primary habitats comprise barren sebkhas, wind-exposed mobile coastal dunes with salt-tolerant vegetation, and stable inland dunes featuring denser shrublands and palm groves. Its salinity and water levels fluctuate significantly due to seasonal rainfall, marine seepage, and periodic freshwater inflows from the Senegal River, creating distinct ecological zones ranging from sparse coastal vegetation to barren salt flats.

As a KBA/IBA, the site is an Internationally Recognized Area under PS6. It does not hold statutory protected area status under Mauritanian law. Because the Project lies outside the site, the PS6 requirements for projects located within Internationally Recognized Areas (paragraph 20) do not apply directly. The relevant question is whether the Project could indirectly affect the biodiversity values for which the site is recognized, which is addressed in Sections 3.3.3 and 4.

The KBA supports globally and regionally significant non-breeding congregations of multiple avian guilds, including Sternidae (terns), Charadriidae (waders/shorebirds), Ardeidae (herons), and Laridae (gulls), fulfilling the qualifying thresholds for IBA Criterion A4 (Congregations) by regularly hosting non-breeding waterbird populations that range between 20,000 and 50,000 individuals annually. The primary peak from November to February, is driven by the arrival of northern wintering populations traveling along the East Atlantic Flyway, including the Northern Pintail (*Anas acuta*) and a dominant winter congregation of Greater Flamingos (*Phoenicopterus roseus*) ranging between 20,000 and 37,000 individuals. The annual international mid-winter waterbird censuses conducted in January consistently capture the absolute highest density of birds relying on the lagoon before their northward return (Agblonon et al. 2023).

Within a 50 km radius of the project footprint there are no other nationally designated or Alliance for Zero Extinction or UNESCO World Heritage sites, which would constitute no-go areas.

4.7 Determination of Natural and Modified Habitat

Both the Project area and the wider Resident and Migratory Species EAAAs appear to be broadly in Natural Habitat, with areas of Modified Habitat to the west and south west, based on satellite-derived land cover layers (European Space Agency (ESA) World Cover 202115), aerial imagery (MapLibre, viewed September 2026), and Site supervision visit, also in September 2026.

Standard ESMP controls apply in the Modified Habitat to the west. In the Natural Habitat that makes up most of the Project area, the mitigation hierarchy will be applied with the aim of achieving No Net Loss where feasible. Practical measures include keeping the footprint compact, using existing tracks for access, routing the overhead line along existing corridors where possible, and restoring temporary work areas after construction. These measures will be set out in the Project's Biodiversity Management Plan (BMP).

5. Conclusion and recommendations

The Project is in an area of mostly Natural Habitat. Therefore, the Project is required under PS6 to fully exercise the mitigation hierarchy, with an emphasis on measures aimed at avoiding and minimizing impacts. The Project Environmental and Social Impact Assessment should quantify the residual impacts to Natural Habitat and determine whether such impacts are considered significant. Where significant residual impacts on NH remain, additional

restoration or offset measures may be required to achieve NNL, where feasible, on NH and associated significant biodiversity. Given the large extent of this habitat type within the ecoregion and the relatively small Project footprint (approximately 1,600 ha), residual impacts on Natural Habitat are not expected to be significant at landscape scale; the ESIA will confirm this.

Despite the Project area being unlikely to meet the IFC definition of Critical Habitat, PS6 requires that, for projects sited in Natural Habitat, mitigation measures must be designed to achieve no net loss of biodiversity when feasible. A Biodiversity Action Plan (BAP) is expected under PS6 only for projects located in Critical Habitat. For this Project, a Biodiversity Management Plan (BMP) integrated into the ESMP is the appropriate instrument.

No Critical Habitat has been identified for resident species. The Spotted Hyena does not meet the Criterion 1 thresholds (Section 3.3.1); verifying its local occurrence is a Natural Habitat management measure and does not affect the CH conclusion.

In the case of the IWA Project, the Project is expected to follow a mitigation strategy that adheres to the mitigation hierarchy, aiming for no net loss of Natural Habitats, where feasible, and associated species of conservation importance. The ESIA residual impact assessment will quantify any residual losses and the corresponding mitigation. As key action points we recommend the following:

- Based on the available data, this CHA finds that the Project is within an area that is unlikely to meet the IFC definitions of CH for MSBs and waterbirds. Overflights by some species cannot be ruled out; these will be covered by the design controls and operational monitoring set out in the Project's BMP.

- Although bird monitoring for IFC-financed projects typically focuses on the principal spring and autumn migration periods, additional monitoring during the wintering period is recommended in this case. The Aftout es Sâheli KBA/IBA supports its highest concentrations of waterbirds between November and February, including substantial numbers of Greater Flamingos (Phoenicopterus roseus). A one-month targeted survey (December 2026–January 2027), will therefore be carried out across the Project footprint to assess potential movements of wintering between the KBA/IBA and surrounding areas. The winter monitoring should be followed by the complementary spring 2027 migration campaign required to address the incomplete coverage of the spring 2026 migration period.

- Operational effects will be addressed through post-construction bird and bat fatality monitoring for the wind and solar components according to IFC-EBRD (2023) Post construction fatality monitoring standards, with adaptive management accordingly to results (see Kosciuch et al. 2025 on interpreting PV fatality data).

- Related to the threatened mammal species of Mauritania (Brito et al. 2022), among the threatened mammal species screened, the Spotted Hyena is the species retained for further Project-specific assessment. The species does not trigger Critical Habitat.

Simple pre-construction verification (community interviews and opportunistic camera trapping) will be included in the BMP, and its results will inform standard avoidance measures in the ESMP.

Indirect effects on the Aftout es Sâheli KBA/IBA

Although the Project is located outside the Aftout es Sâheli KBA/IBA and the available evidence indicates that the Project area itself does not qualify as Critical Habitat under IFC PS6 Criterion 3, the Project has separately considered whether it could indirectly affect the biodiversity values for which the KBA/IBA is recognized. Based on the information available to date, such indirect effects are expected to be low. The KBA's qualifying biodiversity values are primarily associated with coastal wetlands, sebkhas and associated waterbird congregations, whereas the Project is located within inland desert habitat that does not provide equivalent ecological functions. Current monitoring indicates limited use of the Project area by migratory soaring birds and no evidence that the site supports significant concentrations of KBA-trigger species.

Nevertheless, occasional movements of waterbirds between the KBA/IBA and surrounding areas cannot be ruled out at this stage. For this reason, targeted winter surveys, completion of the ongoing migratory bird monitoring programme, implementation of bird collision-risk mitigation measures (including flight diverters on the overhead transmission line), and post-construction monitoring will be undertaken. These measures will confirm whether the Project interacts with KBA-supported bird populations and provide the basis for adaptive management if required. Based on current information, no significant adverse effect on the biodiversity values for which the Aftout es Sâheli KBA/IBA is recognized is anticipated.

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Appendix 1 : Brito et al. (2022) –National Red List assessment for mammals.

Details on the national conservation status assessment of land mammals species in Mauritania following the recommendations of IUCN [1,2], including the global Red List status [3], and the final national Red List status (NRL Final) after considering if each species is endemic or nearly-endemic to Mauritania (Endemism). The extent of occurrence (EOO) and comments on calculation are also provided.

Taxon	IUCN Global RL[3]	NRL Final	IUCN Criteria	Endemism	EOO (km²)	Comment
Addax nasomaculatus	**CR**	**CR**	C2a(ii); D		unknown	Less than 3 observations available to calculate EOO
Ammotragus lervia	**VU**	**EN**	B1a,b(i,iii,v); C2a(i); D		2,055	
Damaliscus lunatus	LC	RE			-	
Eudorcas rufifrons	**VU**	**EN**	C2a(i)		142,472	
Gazella dorcas	**VU**	**VU**	C2a(i)		512,845	
Hippotragus equinus	LC	RE			-	
Kobus kob	LC	RE			-	
Nanger dama	CR	RE			-	
Oryx dammah	EW	EW			-	
Redunca redunca	LC	RE			-	
Taurotragus derbianus	VU	RE			-	
Tragelaphus scriptus	LC	RE			-	
Giraffa camelopardalis	VU	EW			-	
Hippopotamus amphibius	**VU**	**CR**	C2a(i); D		255	Calculated following the linear habitat of the Senegal River including a buffer of 500 m
Phacochoerus africanus	LC	LC			204,862	
Canis lupaster	LC	LC			488,468	
Lycaon pictus	EN	RE			-	
Vulpes pallida	LC	LC			198,113	
Vulpes rueppellii	LC	LC			438,435	
Vulpes zerda	LC	LC			499,712	
Acinonyx jubatus	VU	RE			-	
Caracal caracal	LC	NT	C2a(i)		93,782	
Felis margarita	LC	LC			182,922	
Felis silvestris	LC	LC			381,476	
Leptailurus serval	**LC**	**VU**	B1a,b(i,iii); C2a(i)		2,936	
Panthera leo	VU	RE			-	
Panthera pardus	**VU**	**CR**	C2a(i); D		unknown	Less than 3 observations available to calculate EOO
Atilax paludinosus	LC	DD			13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Herpestes ichneumon	LC	LC			143,674	
Herpestes sanguineus	LC	LC			152,594	

Taxon	IUCN Global RL[3]	NRL Final	IUCN Criteria	Endemism	EOO (km²)	Comment
Ichneumia albicauda	LC	LC			49,540	
Crocuta crocuta	**LC**	**VU**	**C2a(i)**		277,783	
Hyaena hyaena	NT	NT	C2a(i)		390,833	
Aonyx capensis	NT	DD			13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Ictonyx libyca	LC	LC			237,602	
Ictonyx striatus	LC	DD			22,588	
Mellivora capensis	LC	LC			408,812	
Civettictis civetta	LC	LC			57,205	
Genetta genetta	LC	LC			228,501	
Taphozous nudiventris	LC	DD			unknown	Less than 3 observations available to calculate EOO
Taphozous perforatus	LC	NT	B1a		13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Asellia tridens	LC	LC			128,277	
Hipposideros cf. caffer	NE	NT	B1a		16,811	
Hipposideros tephrus	LC	LC	B1a		7,450	
Mops condylurus	LC	DD			13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Tadarida aegyptiaca	LC	DD			unknown	Less than 3 observations available to calculate EOO
Nycteris gambiensis	LC	DD			unknown	Less than 3 observations available to calculate EOO
Nycteris hispida	LC	LC	B1a		13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Nycteris macrotis	LC	LC	B1a		13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Nycteris thebaica	LC	DD			13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Eidolon helvum	NT	LC			72,013	
Rhinolophus fumigatus	LC	DD			unknown	Less than 3 observations available to calculate EOO
Rhinolophus landeri	LC	DD			unknown	Less than 3 observations available to calculate EOO
Rhinopoma cystops	LC	LC			24,071	
Rhinopoma hardwickei	LC	LC			155,488	
Rhinopoma microphyllum	LC	LC			916	
Eptesicus floweri	LC	DD			unknown	Less than 3 observations available to calculate EOO
Nycticeinops schlieffeni	LC	LC			210,089	
Pipistrellus rueppellii	LC	LC			7,210	
Scotophilus leucogaster	LC	DD			unknown	Less than 3 observations available to calculate EOO
Atelerix albiventris	LC	LC			178,621	
Paraechinus aethiopicus	LC	LC			415,136	
Procavia capensis	LC	LC			192,871	
Lepus spp.	NE	NA			-	
Ceratotherium simum	NT	RE			-	

Taxon	IUCN Global RL[3]	NRL Final	IUCN Criteria	Endemism	EOO (km^2)	Comment
Chlorocebus sabaeus	LC	NT	C2a(i)		34,325	
Erythrocebus patas	NT	LC			103,600	
Papio papio	**NT**	**VU**	C2a(i)		61,999	
Galago senegalensis	LC	DD			unknown	Less than 3 observations available to calculate EOO
Loxodonta africana	EN	RE			-	
Felovia vae	LC	LC		Nearly-endemic	231,701	
Jaculus cf. hirtipes	NE	LC			240,866	
Jaculus jaculus	LC	LC			461,651	
Hystrix cristata	LC	LC			275,831	
Acomys airensis	LC	LC			391,512	
Arvicanthis niloticus	LC	LC			185,358	
Desmodilliscus braueri	LC	LC			232,308	
Gerbillus amoenus	LC	LC			314,996	
Gerbillus campestris	LC	LC			379,965	
Gerbillus gerbillus	LC	LC			423,274	
Gerbillus henleyi	LC	LC			36,723	
Gerbillus nancillus	DD	LC			68,332	
Gerbillus nigeriae	LC	LC		Endemic	213,037	
Gerbillus pyramidum	LC	LC			113,620	
Gerbillus tarabuli	LC	LC			415,239	
Mastomys erythroleucus	LC	LC			15,711	
Mastomys huberti	LC	LC			13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km
Meriones crassus	LC	LC			150,946	
Meriones libycus	LC	DD			unknown	Less than 3 observations available to calculate EOO
Mus haussa	LC	LC			4,215	
Mus musculus	LC	NA			-	
Pachyuromys duprasi	LC	LC			58,489	
Praomys cf. daltoni	**NE**	**VU**	B1a,b(iii)	Endemic	5,002	
Psammomys obesus	LC	LC			37,571	
Rattus rattus	LC	NA			-	
Taterillus arenarius	LC	LC			104,232	
Taterillus gracilis	LC	DD			unknown	Less than 3 observations available to calculate EOO
Taterillus pygargus	LC	DD			unknown	Less than 3 observations available to calculate EOO
Taterillus tranieri	LC	LC	D2	Nearly-endemic	unknown	Less than 3 observations available to calculate EOO
Euxerus erythropus	LC	LC			265,685	
Crocidura cinderella	LC	DD			unknown	Less than 3 observations available to calculate EOO
Crocidura fuscomurina	LC	DD			unknown	Less than 3 observations available to calculate EOO
Crocidura lusitania	LC	LC			38,004	
Crocidura nanilla	LC	DD			unknown	Less than 3 observations available to calculate EOO

Taxon	IUCN Global RL[3]	NRL Final	IUCN Criteria	Endemism	EOO (km^2)	Comment
Crocidura olivieri	LC	DD			unknown	Less than 3 observations available to calculate EOO
Crocidura viaria	LC	LC			240,532	
Orycteropus afer	LC	DD			13,410	Calculated following the linear habitat of the Senegal River including a buffer of 20 km

[1] IUCN Standards and Petitions Committee. Guidelines for Using the IUCN Red List Categories and Criteria. Version 14. Gland, Switzerland and Cambridge, UK: IUCN; 2019. [cited from 2021 November 29]. Available from: http://www.iucnredlist.org/documents/RedListGuidelines.pdf.

[2] IUCN. Guidelines for application of IUCN Red List Criteria at regional and national levels. Version 4.0. Gland, Switzerland and Cambridge, UK: IUCN; 2012.

[3] IUCN. The IUCN Red List of Threatened Species. Version 2021-2. Gland, Switzerland and Cambridge, UK: IUCN; 2021. [cited 2021 October 12]. Available from: https://www.iucnredlist.org.

Appendix 2 : Regional Flyway Data used to assess Population Significance of Waterbirds.

Highlighted in red the species which meet the Criteria of the Aftout Es Sâheli IBA. In green species detected through th bird monitoring.

Bird Species	IUCN Status	Regional Flyway Population considered	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory	Presence project area
Family: ANATIDAE (Ducks)							
Egyptian Goose (*Alopochen aegyptiaca*)	LC	West Africa	5000-10000	70	2006	No	No
Northern Pintail (*Anas acuta*)	LC	W Siberia, NE & E Europe/S Europe & West Africa	450,000 - 750,000	5800	2000 - 2018	Yes	No
Ferruginous Duck (*Aythya nyroca*)	NT	Eastern Europe/E Mediterranean & Sahelian Africa	24,000 - 61,000	380	2000 - 2019	Yes	No
Fulvous Whistling-duck (*Dendrocygna bicolor*)	LC	West Africa (Senegal to Chad)	20,000 - 50,000	320	2006 - 2014	No	No
White-faced Whistling-duck (*Dendrocygna viduata*)	LC	Africa	Not available		0	No	No
Marbled Duck (*Marmaronetta angustirostris*)	NT	West Mediterranean/West Medit. & West Africa	6,000 - 7,500	65	2003 - 2018	Yes	No
African Pygmy-goose (*Nettapus auritus*)	LC	West Africa	2,500 - 10,000	50	2001	No	No
Spur-winged Goose (*Plectropterus gambensis*)	LC	gambensis, West Africa	50,000 - 100,000	710	2006	No	No
Knob-billed Duck (*Sarkidiornis melanotos*)	LC	West Africa	20,000 - 40,000	280	2010 - 2019	No	No
Northern Shoveler (*Spatula clypeata*)	LC	W Siberia, NE & E Europe/S Europe & West Africa	450,000 -600,000	5200	2000 - 2018	Yes	No
Garganey (*Spatula querquedula*)	LC	Western Siberia & Europe/West Africa	1,000,000 -1,800,000	13400	2006 - 2018	Yes	No
Family: ANHINGIDAE (Darters)							
African Darter (*Anhinga rufa*)	LC	W Africa	1 - 25,000	250	2001	No	No
Family: ARDEIDAE (Herons and Egrets)							
Great White Egret (*Ardea alba*)	LC	melanorhynchos, Sub-Saharan Africa & Madagascar	100,000 - 500,000	2200	2001	Yes	Yes
Yellow-billed Egret (*Ardea brachyrhyncha*)	LC	Sub-Saharan Africa	25,000 - 100,000	1000	2001	No	No
Purple Heron (*Ardea purpurea*)	LC	West Europe & West Mediterranean/West Africa	27,000 - 30,000	280	2003 - 2018	Yes	No

Bird Species	IUCN Status	Regional Flyway Population considered	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory	Presence project area
Squacco Heron (*Ardeola ralloides*)	LC	ralloides, SW Europe, NW Africa (bre)	9,000 - 11,000	100	2002 -2018	Yes	No
Cattle Egret (*Bubulcus ibis*)	LC	ibis, Tropical Africa	1,000,000 -10,000,000	30,000	1990 - 2001	Yes	No
Black Heron (*Egretta ardesiaca*)	LC	Sub-Saharan Africa	25,000 - 100,000	1000	1999	No	No
Little Egret (*Egretta garzetta*)	LC	garzetta, Sub-Saharan Africa	200,000 -500,000	3200	2001	Yes	No
Western Reef-egret (*Egretta gularis*)	LC	gularis, West Africa	10,000 - 50,000	220	1991 - 2018	Yes	No
Black-crowned Night Heron (*Nycticorax nycticorax*)	LC	nycticorax, W Europe, NW Africa (bre)	47,000 - 57,000	480	2003 - 2018	Yes	No
Family: CHARADRIIDAE (Plovers)							
Kentish Plover (*Charadrius alexandrinus*)	LC	alexandrinus, West Europe & West Mediterranean/West Africa	40,000 - 65,000	510	2007 - 2018	Yes	No
Common Ringed Plover (*Charadrius hiaticula*)	LC	psammodromus, Canada, Greenland & Iceland/W & S Africa	240,000	2400	2010 - 2014	Yes	Yes
Kittlitz's Plover (*Charadrius pecuarius*)	LC	West Africa	20,000 - 50,000	320	2001	No	No
Grey Plover (*Pluvialis squatarola*)	VU	squatarola, W Siberia/W Europe & W Africa	200,000	2000	2010 - 2018	Yes	No
Family: CICONIIDAE (Storks)							
Black Stork (*Ciconia nigra*)	LC	South-west Europe/West Africa	3,800 - 4,800	45	2013 - 2018	Yes	No
Yellow-billed Stork (*Mycteria ibis*)	LC	Sub-Saharan Africa (excluding Madagascar)	75,000 - 150,000	1100	2006 - 2014	No	No
Family: GLAREOLIDAE (Pratincoles)							
Collared Pratincole (*Glareola pratincola*)	LC	pratincola, Western Europe & NW Africa/West Africa	15,000 - 26,000	200	2003 - 2018	Yes	No
Family: GRUIDAE (Cranes)							
Black Crowned Crane (*Balearica pavonina*)	VU	pavonina, West Africa (Senegal to Chad)	5,000 - 15,000	85	2010	No	No

Bird Species	IUCN Status	Regional Flyway Population considered	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory	Presence project area
Family: HAEMATOPODIDAE (Oystercatchers)							
Eurasian Oystercatcher (*Haematopus ostralegus*)	NT	ostralegus, Europe/South & West Europe & NW Africa	750,000 - 970,000	8200	2007 - 2018	Yes	No
Family: LARIDAE (Gulls and Terns)							
White-winged Tern (*Chlidonias leucopterus*)	LC	Eastern Europe & Western Asia/Africa	2,500,000 -3,500,000	30,000	1999 - 2019	Yes	No
Common Gull-billed Tern (*Gelochelidon nilotica*)	LC	nilotica, Western Europe/West Africa	28,000 - 38,000	330	1972 - 2018	Yes	No
Caspian Tern (*Hydroprogne caspia*)	LC	West Africa (bre)	21,000 - 22,000	210	2019	Yes	No
Grey-headed Gull (*Larus cirrocephalus*)	LC	poiocephalus, West Africa	25,000 - 30,000	270	2010 - 2014	Yes	No
Lesser Black-backed Gull (*Larus fuscus*)	LC	graellsii, Western Europe/Mediterranean & West Africa	480,000 - 500,000	4900	1981 - 2018	Yes	No
Slender-billed Gull (*Larus genei*)	LC	West Africa (bre)	24,000 - 30,000	270	2003 - 2019	Yes	No
Common Tern (*Sterna hirundo*)	LC	hirundo, W Africa (bre)	1200	10	2001	Yes	No
Little Tern (*Sternula albifrons*)	LC	albifrons, West Mediterranean/ W Africa (bre)	16,300 - 26,000	210	2006 - 2018	Yes	Yes
Royal Tern (*Thalasseus maximus*)	LC	albidorsalis, West Africa (bre)	220,000 - 230,000	2200	2019	Yes	No
Sandwich Tern (*Thalasseus sandvicensis*)	LC	sandvicensis, Western Europe/West Africa	170,000 - 200,000	1700	2006 - 2018	Yes	No
Family: PELECANIDAE (Pelicans)							
Great White Pelican (*Pelecanus onocrotalus*)	LC	West Africa	60,000	600	1975 - 2014	Yes	Yes
Family: PHALACROCORACIDAE (Cormorants)							
Long-tailed Cormorant (*Microcarbo africanus*)	LC	lucidus, Coastal West Africa	40,000	400	2010 - 2014	No	No
Great Cormorant (*Phalacrocorax carbo*)	LC	lucidus, Coastal West Africa	40,000	400	2010 - 2014	Yes	No

Bird Species	IUCN Status	Regional Flyway Population considered	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory	Presence project area
Family: PHOENICOPTERIDAE (Flamingos)							
Lesser Flamingo (*Phoeniconaias minor*)	NT	West Africa	25,000 - 30,000	270	2010 - 2018	Yes	No
Greater Flamingo (*Phoenicopterus roseus*)	LC	West Africa	100,000 -130,000	1100	2014 - 2018	No	No
Family: PODICIPEDIDAE (Grebes)							
Little Grebe (*Tachybaptus ruficollis*)	LC	capensis, Sub-Saharan Africa	100,000 - 1,000,000	10,000	2001	Yes	No
Family: RALLIDAE (Rails and Swamphens)							
Purple Swamphen (*Porphyrio porphyrio*)	LC	madagascariensis, W Africa	10,000 - 25,000	250	2005	No	No
Family: RECURVIROSTRIDAE (Avocets)							
Pied Avocet (*Recurvirostra avosetta*)	LC	Western Europe & North-west Africa (bre)	100,000 - 110,000	940	2007 - 2018	Yes	No
Family: Sandpipers and allies)							
Ruddy Turnstone (*Arenaria interpres*)	NT	interpres, Northern Europe/West Africa	44,000 - 87,000	620	2008 - 2018	Yes	No
Sanderling (*Calidris alba*)	LC	alba, East Atlantic Europe, West & Southern Africa (win)	200,000	2000	2010 - 2014	Yes	Yes
Dunlin (*Calidris alpina*)	NT	arctica, NE Greenland/West Africa + schinzii, Iceland & Greenland/NW and West Africa	761,000-876,000	8180	2001 - 2018	Yes	Yes
Red Knot (*Calidris canutus*)	NT	canutus, Northern Siberia/West & Southern Africa	250,000	2500	2010 - 2014	Yes	No
Curlew Sandpiper (*Calidris ferruginea*)	VU	Western Siberia/West Africa	350,000 - 450,000	4000	2010 - 2014	Yes	No
Little Stint (*Calidris minuta*)	LC	N Europe/S Europe, North & West Africa	270,000 - 360,000	3000	2010 - 2018	Yes	Yes
Ruff (*Calidris pugnax*)	LC	Northern Europe & Western Siberia/West Africa	1,500,000 - 3,100,000	22000	1980 - 2019	Yes	No
Bar-tailed Godwit (*Limosa lapponica*)	NT	taymyrensis, Western Siberia/West & South-west Africa	500,000	5000	2010 - 2014	Yes	No
Black-tailed Godwit (*Limosa limosa*)	NT	limosa, Western Europe/NW & West Africa	63,000 - 99,000	790	2015	Yes	No

Bird Species	IUCN Status	Regional Flyway Population considered	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory	Presence project area
Eurasian Curlew (*Numenius arquata*)	NT	arquata, Europe/Europe, North & West Africa	610,000 - 830,000	7600	1990 - 2019	Yes	No
Whimbrel (*Numenius phaeopus*)	LC	phaeopus, Northern Europe/West Africa	240,000 -330,000	3100	2010 - 2018	Yes	No
Red Phalarope (*Phalaropus fulicarius*)	LC	Canada & Greenland/Atlantic coast of Africa	1,250,000 - 1,980,000	15700	2012	Yes	No
Common Greenshank (*Tringa nebularia*)	LC	Northern Europe/SW Europe, NW & West Africa	230,000 - 360,000	2900	1995 - 2018	Yes	No
Common Redshank (*Tringa totanus*)	LC	totanus, Northern Europe (breeding)	160,000 - 240,000	2000	2008 - 2018	Yes	No
Family: STERCORARIIDAE (Skuas and Jaegers)							
Great Skua (*Catharacta skua*)	LC	N Europe/N Atlantic	39,000 - 45,000	420	1998 - 2019	Yes	No
Northern Gannet (*Morus bassanus*)	LC	North Atlantic	1,600,000	16000	2008 - 2018	Yes	No
Family: THRESKIORNITHIDAE (Ibis and Spoonbills)							
African Spoonbill (*Platalea alba*)	LC	Sub-Saharan Africa	30,000 - 65,000	440	2003 - 2012	No	No
Eurasian Spoonbill (*Platalea leucorodia*)	LC	balsaci, Coastal West Africa (Mauritania)	2250	20	2012	Yes	Yes
Glossy Ibis (*Plegadis falcinellus*)	LC	Black Sea & Mediterranean/West Africa	73,000 - 150,000	1000	2005 - 2019	Yes	No

Appendix 3 : MSBs Species screening shortlist considered against IFC PS6 Critical Habitat criteria, and preliminary assessment conclusions.

Species	IUCN Status	Criteria considered	Minimum global population **estimate**[11]	Commentary	Conclusion
Species screened to qualify the Migratory EAAA as CH					
Egyptian Vulture	EN	PS6: 1a, 3a	18,600 (IUCN 2026)	The species has been recorded once within the Migratory Bird EAAA (https://ebird.org). The species has not been recorded in neither spring nor autumn.	The EAAA **does not qualify** as Critical Habitat for this species.
Black Stork	LC	PS6: 3a	3,800-4,800 (IUCN 2026)	There are no records during the 2026 bird monitoring. The species has been recorded 25 times within and has a high count of 14 individuals in the Trarza region (https://ebird.org).	The EAAA **does not qualify** as Critical Habitat for this species.
White Stork	LC	PS6: 3a	700,000 (Wetlands International 2015)	The species has not been recorded in neither spring nor autumn 2026 bird monitoring. By the way there are three records in the Trarza region, with a maximum count of 30 birds (https://ebird.org).	The EAAA **does not qualify** as Critical Habitat for this species.
European Honey-buzzard	LC	PS6: 3a	435,000 (IUCN 2026)	The species has not been recorded during the both spring and autumn seasons. For this species counts are considered accurate, as the time of passage has been fully covered: first fifteen days of May, and late August. There are no records for this species in (https://ebird.org).	The EAAA **does not qualify** as Critical Habitat for this species.
Short-toed Eagle	LC	PS6: 3a	75,000 (IUCN 2026)	The species has not been recorded during the both spring and autumn seasons. There are no records for this species in (https://ebird.org).	The EAAA **does not qualify** as Critical Habitat for this species.
Black Kite	LC	PS6: 3a	6,000,000 (IUCN 2026)	The species has been recorded 72 times within the Migratory Bird EAAA, involving 333 birds in spring. On the contrary, there have been two records with one individual each in autumn. In (https://ebird.org) there are 115 records with counts ranging 1-15 individuals. The available count data on this species fall below the Critical Habitat-qualifying thresholds, suggesting the total number of birds migrating through the broader EAAA during an entire migratory season do not exceed 1% of the species' minimum global population.	The EAAA **does not qualify** as Critical Habitat for this species.
Booted Eagle	LC	PS6: 3a	225,000 (IUCN 2026)	The species has not been recorded during the migratory counts up to now. There are only two records from the Trarza region.	The EAAA **does not qualify** as Critical Habitat for this species.

Species	IUCN Status	Criteria considered	Minimum global population **estimate**[11]	Commentary	Conclusion
Lesser Kestrel	LC	PS6: 3a	120,000 (IUCN 2026)	The species has not been recorded in neither spring nor autumn up to now. There are only two records of single individuals in (https://ebird.org). This species has a particular behavior. As some other Falcon species may migrate during the night, being not detected by observers (e.g. see Limiñana et l. 2012). Any further assessment would becompleted once the project is operational by means of PCFM	The EAAA **does not qualify** as Critical Habitat for this species.
Great White Pelican	LC	PS6: 3a	260,000 (IUCN, 2026)	The species is being recorded in spring and autumn migration seasons. Pending to complete the bird monitoring assessment	The EAAA **seems not to qualify** as Critical Habitat for this species.

**Minimum population estimate are as reported in the IUCN Red List. For some species the IUCN Red List reports the estimated number of mature individuals only: where this was the case we adjusted these values by the 1:1.5 ratio of mature individuals to total individuals for related taxa as reported in the relevant Birdlife International species factsheets.