Spatial Analysis of Ecological Risks for WACA Projects along the Mauritania Coast

Prepared for the WACA Mauritania program

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Acronyms Used and their Descriptions

AoA	Area of Analysis (for CHA)
AMP	*Aire Marine Protégée* (Marine Protected Area)
AZE	Alliance for Zero Extinction
CHA	Critical Habitat Assessment
CR	Critically Endangered
DD	Data Deficient
EN	Endangered
EPBR	*Établissement Portuaire de la Baie de Repos* (Nouadhibou Port Authority)
EoO	Extent of Occurrence
ESIA	Environmental & Social Impact Assessment
ESIS	Environmental & Social Impact Statement
ESS6	Environmental and Social Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
IBA	Important Bird Area
IBAT	Integrated Biodiversity Assessment Tool
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
LC	Least Concern
LoO	Likelihood of Occurrence
MPA	Marine Protected Area
NE	Not Evaluated (for threatened status)
NG	Net Gain (of biodiversity)
NGO	Non-Governmental Organization
NNL	No Net Loss of Biodiversity
NT	Near Threatened (IUCN Red List Category)
SALN	*Société d'Aménagement du Littoral de Nouakchott* (Nouakchott Coastal Development Company)
UNESCO	United Nations Educational, Scientific and Cultural Organization
VU	Vulnerable
WACA	West Africa Coastal Areas Program
WB / WBG	World Bank / World Bank Group
WPE	Waterbird Population Estimates

1 EXECUTIVE SUMMARY

This report presents an Ecological Spatial Analysis for two Mauritania sub-projects funded under the World Bank's West Africa Coastal Areas (WACA) Program:

1. The Nouadhibou Boat Parking Development, to relieve congestion in the port and improve artisanal fisheries operations and safety.
2. The Nouakchott Dune Rehabilitation Project, to restore the integrity of the dune cordon that shields Nouakchott from coastal erosion, marine intrusion, and sea-level rise.

Both sub-projects fall within coastal zones of high ecological importance, warranting an assessment on biodiversity conservation aligned with the World Bank standard ESS6.

A third project involves mapping regeneration of mangroves in the Mauritania side of the lower Senegal River delta. This mapping sub-project will not cause adverse impacts to the biodiversity, so is not the focus of the assessments of this report.

Impacts to Natural Habitat

Both sites are located within the Saharan Atlantic Coastal Desert ecoregion, an extremely arid environment where terrestrial habitats are fragile and highly sensitive to disturbance.

- The Nouadhibou Site is situated in a disturbed intertidal zone devoid of vegetation or fauna, which is not considered natural habitat.
- Affected areas of the Nouakchott Dune Rehabilitation comprise largely disturbed dunes showing anthropogenic vegetation patterns. Borrow areas are mostly associated with the urban edge with many signs of disturbance. While some natural dune elements might persist, the area is predominantly modified, with no significant natural habitat loss anticipated.

Accordingly, ESS6 No Net Loss requirements are not triggered for either sub-project.

Protected Areas

The Mauritania coastline supports several legally protected areas and internationally recognized areas of high biodiversity value, including Ramsar Wetlands, Key Biodiversity Areas and Important Bird Areas, with many areas overlapping. These areas are recognized for exceptional abundance of migratory birds which are a key focus for the assessment of critical habitat

Critical Habitat Assessment

The assessment of critical habitat yielded the following results:

- Migratory Birds: At least 105 bird populations exceed 1% of their regional flyway populations, meeting Criterion (c) of ESS6. Thirteen bird populations exceed 50% of their flyway population totals, confirming global importance of coastal Mauritania for bird conservation.

- Sea Turtles: Green and Hawksbill Turtles nest along the Mauritanian coast, particularly near Aftout es Sâheli and Banc d'Arguin, qualifying these areas as critical habitats.
- African Manatee and Hippopotamus are present in the Senegal River and regionally important but extirpated from Diawling National Park after the Diama Dam construction.
- Marine Mammals: Blue Whale, Sei Whale, and Atlantic Humpback Dolphin occur rarely and are unlikely to represent significant populations (critical habitats) for these species.

Net Gain and Impact Relevance

- The Nouadhibou boat parking sub-project is located in a modified port setting with no significant biodiversity impacts expected.
- The Nouakchott Dune Rehabilitation sub-project could cause minor temporary disturbances to migratory waterbirds and potential risk to sea turtles, both impacts can be mitigated.

Mitigation is proposed within the Nouakchott sub-project ESIA which will minimize impacts, but effectiveness can be enhanced with the following additional measures:

- Local ecologists must conduct early morning patrols along the beaches to search for turtle nesting activity, starting three months prior to the construction. Any sea turtle nests must be translocated to predesignated safe beach habitats where they will receive protection.
- During construction works, ecologists must watch for migratory waterbird behavior. Thresholds for numbers of birds must be established, which if exceeded, construction works in the vicinity should be temporarily delayed.

ESIA mitigation and the above additional measures are easily implemented and are likely to be effective. However there is no certainty that impacts can be fully mitigated, while monitoring the adverse effect of construction impacts will be challenging to assess. The following measures are proposed as net gain actions which need to be scoped and appropriately budgeted:

- Provide support to local conservation organizations to monitor and protect sea turtles along the broader Nouakchott coast.
- The beaches must be cleaned of plastic waste and potential hazards to birds and sea turtles, such as discarded fishing gear.
- Rehabilitation of natural beach habitats, such as Mangroves, in the vicinity of Nouakchott can also be considered.
- Monitoring the presence of migratory birds and evidence of sea turtle nesting behavior can provide data that can demonstrate the effectiveness of the measures proposed in the ESIA, the additional measures and net gain actions.

2 INTRODUCTION

This document describes three WACA-funded sub-projects within Mauritania,

- Development of a boat parking area in the small fishing town of Nouadhibou on the northern coast,
- Dune rehabilitation along the beaches in Nouakchott, the capital city in the central coast, and
- Mapping the regeneration of mangroves in the lower Senegal River delta within the Diawling National Park on the southern coast of Mauritania.

Nouadhibou Boat Parking Development

A new parking area will be constructed for small boats at the Baie de Repos in Nouadhibou. The Nouadhibou Port is severely congested with artisanal fishing boats (Figure 1). The sub-project will improve port functionality, safety, and working conditions for artisanal fishers through relieving congestion in the existing port area by creating dedicated basins for. The severe congestion results in safety risks, inefficiencies and stresses on existing infrastructure. The sub-project is located primarily at Pointe Rey, in the southern zone of the Port Establishment of Baie de Repos (EPBR), and will be led by the EPBR, which manages the artisanal fishing port and its facilities.

Figure 1 Extreme congestion of artisanal fishing boats in the Nouadhibou Port (March 1, 2025)

Nouakchott Dune Rehabilitation Project

The Nouakchott coastline is threatened by accelerated coastal erosion, marine submersion, and climate change. The capital's protection relies on a fragile dune cordon that separates the city from the Atlantic Ocean. This dune belt serves as a natural barrier, but its progressive weakening, marked by numerous breaches, poses growing risks to populations, infrastructure, and economic assets. In response, the Nouakchott Coastal Development Company (SALN), with the support of the Mauritanian government and development partners, has initiated a large-scale program to rehabilitate and strengthen this protective system.

The goal is to improve the resilience of Nouakchott by 2055 through the restoration and long-term stabilization of the dune cordon. The sub-project focuses on sealing 15 priority breaches identified by SALN in consultation with ministerial partners and technical experts. These works are part of a wider coastal protection and urban development strategy, complementing interventions already underway under the West Africa Coastal Areas (WACA) Program, financed by the World Bank. WACA has addressed several other breaches and supported measures such as mangrove planting, community disaster risk reduction, and cross-border shoreline management with Senegal.

The specific objectives of the sub-project are to:

- Restore the dune cordon's integrity along a 14 km stretch by sealing priority breaches.
- Reduce risks of marine intrusion during storms, exceptional tides, and rising sea levels.
- Promote climate resilience by favoring natural, sustainable solutions such as dune reconstitution, vegetation stabilization, and controlled access.
- Safeguard socio-economic activities linked to the coastal zone, including fishing, industry, agriculture, and tourism.
- Support flood management by enhancing infiltration and evacuation of rainwater and wastewater.
- Facilitate future development through integration with planned promenades, soft mobility routes, industrial zones, and photovoltaic parks.

The sub-project builds on a pre-feasibility study (Artelia and Okan, 2022) and a detailed design study (SETEC, 2025), which informed the technical solutions adopted. Field surveys, environmental baseline assessments, and consultations with communities and stakeholders have shaped the design and scope.

Mapping the regeneration of mangroves in the Senegal River Delta

The Mangrove Mapping is conducted on the right bank of the lower Senegal River delta, within the Diawling National Park, which forms part of a Transboundary Biosphere Reserve. The sub-

project is conducted under the WACA initiative, and combines field surveys, community consultations, and satellite image analysis to map about 509 ha of mangroves, dominated by two species, *Avicennia germinans* and *Rhizophora racemosa*. The study has revealed significant regeneration driven by improved hydrological management and restoration programs. It highlighted mangroves' roles in biodiversity, carbon storage, and coastal protection, recommending continued restoration, community engagement, and strengthened water management for sustainable conservation.

No adverse impacts to the biodiversity are anticipated as a result of this sub-project, it is therefore not the focus of the assessments of this report.

2.1 Purpose and Scope of this Report

A brief Environmental and Social Impact Statement (ESIS) has been compiled for the Nouadhibou sub-project and a more comprehensive Environmental and Social Impact Assessment (ESIA) has been compiled for the Nouakchott sub-project. These documents describe baseline conditions, assess environmental and social impacts, and present mitigation. However both sites are located in areas with sensitive biodiversity and alignment to the World Bank Environment and Social Standard 6 on Biodiversity Conservation and Sustainable Management of Living Natural Resources has been identified as gaps. This report is compiled to improve alignment to ESS6 through presentation of an assessment of natural habitats, critical habitats and protected areas.

2.2 Brief Project Descriptions

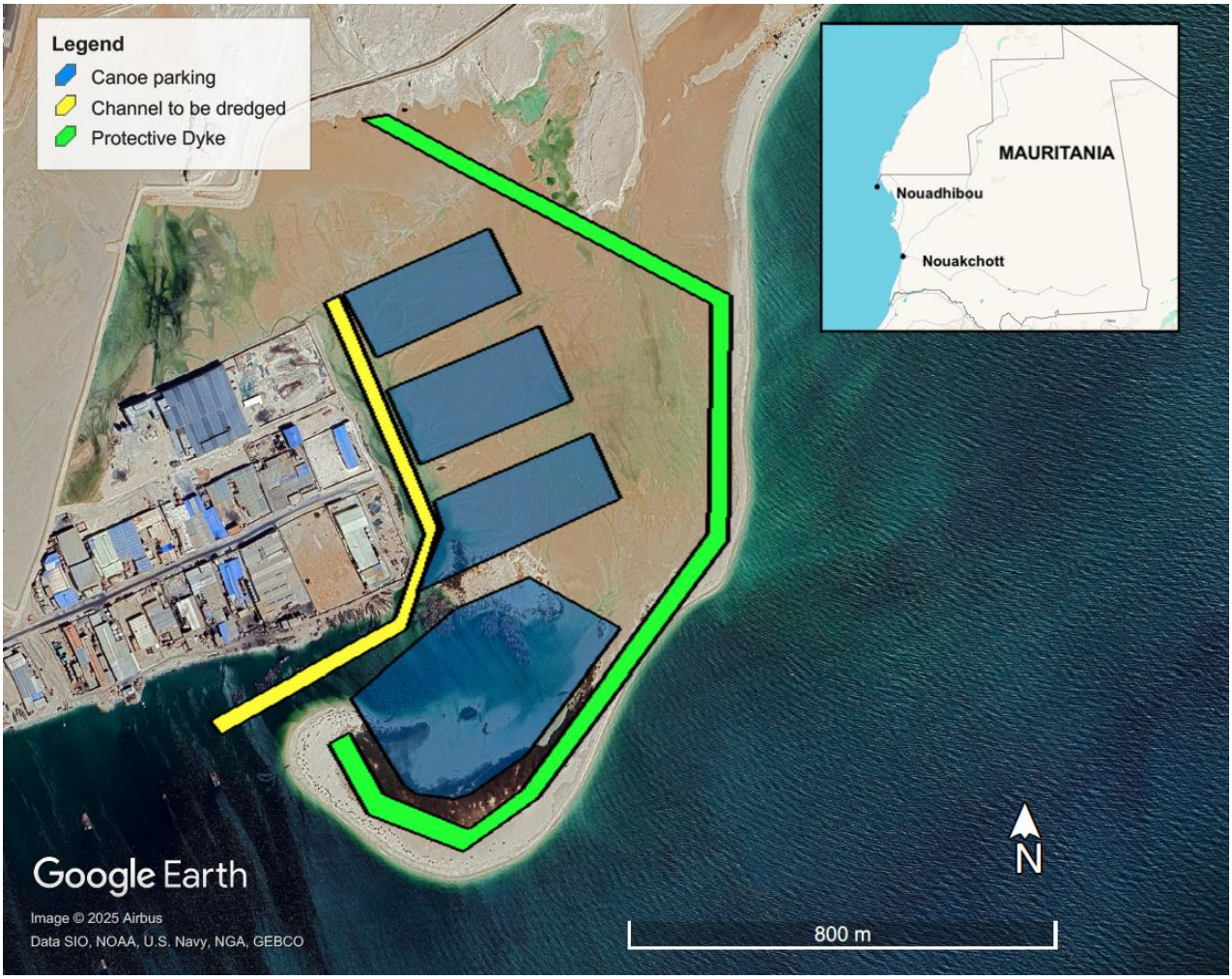
2.2.1 Nouadhibou Boat Parking Development

Development of a new boat parking area and the construction of an access dyke are proposed at the Baie de Repos in Nouadhibou at GPS location Lat. 20.915016°; Long. -17.024294°. Figure 2 presents the proposed layout.

Key development components include:

- Construction of rectangular bays, approx. 30,000 m² each with a depth of 2 m, to serve as dedicated boat parking areas.
- Dredging of parking basins with installation of mooring devices.
- Development of an access dike on the landward side, 2.3 km in length, linking to the road network managed by the Nouadhibou Free Zone.
- Site clean-up, removal of abandoned canoes and accumulated waste.
- Mechanical dredging, allowing recovery and reuse of dredged materials for embankment construction where feasible.

Figure 2 Layout and location of the Nouadhibou Boat Parking Project

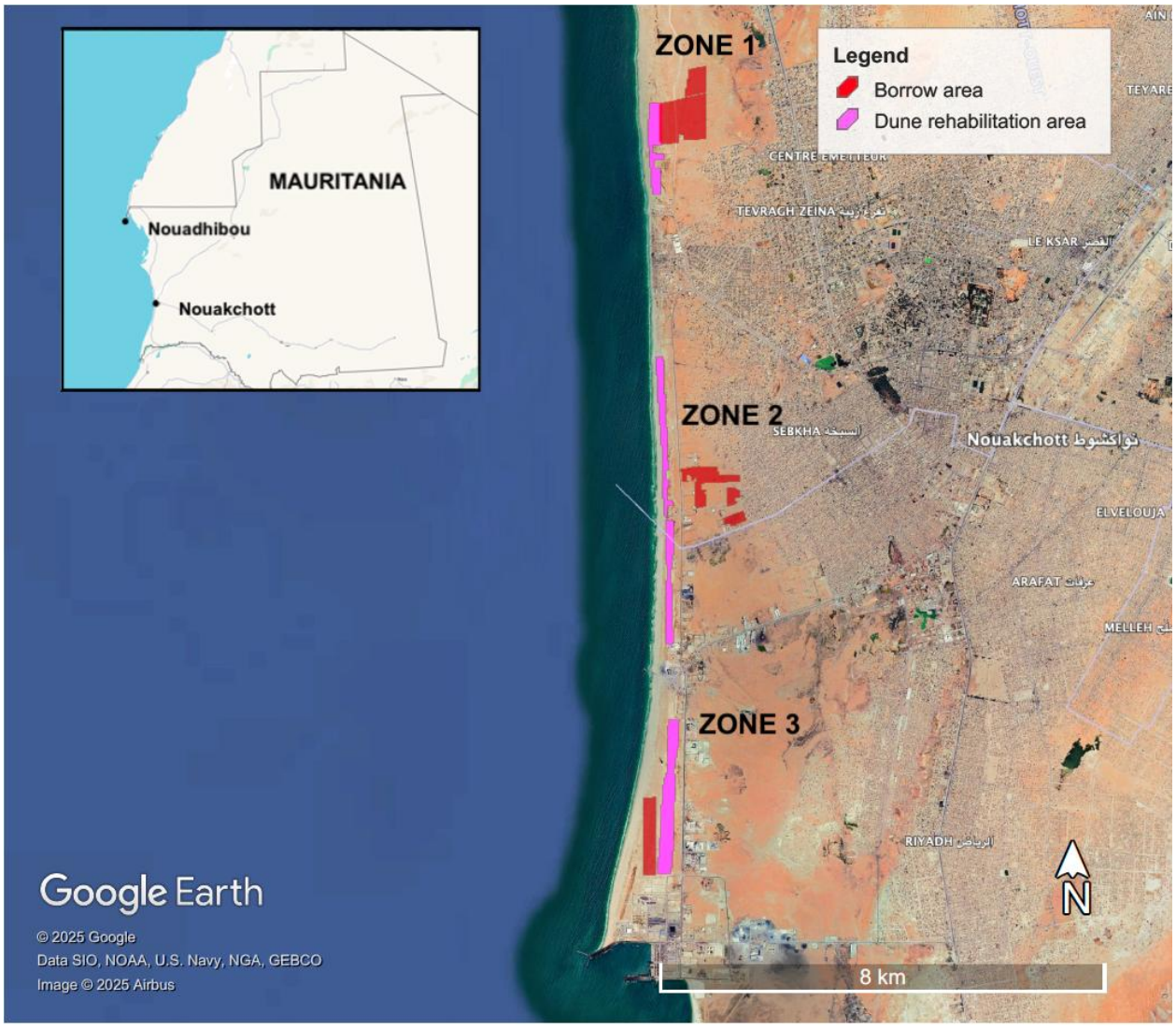


2.2.2 Nouakchott Dune Rehabilitation Project Description

This project will involve dune construction along the coast using sand and aggregate material sourced nearby. A central location for the sub-project is Lat. 18.063224°, Long. -16.023655°.

The works will be implemented in three discrete areas, identified as Zone 1, Zone 2 and Zone 3 (Figure 3). Each zone includes the dune area for rehabilitation and borrow areas for sourcing soils and aggregates.

Figure 3 Layout and location of the Nouakchott Dune Rehabilitation Project



The construction methods exclude hard engineering solutions requiring regular maintenance, instead favoring long-term, environmentally responsible interventions. The works will be phased to address the most vulnerable breaches first, while ensuring continuity of local livelihoods and minimizing disturbance.

The sub-project will consist of the following interrelated components:

1. Sealing of 15 Dune Breaches:
   - Targeted civil works to close gaps in the dune cordon, using sand backfilling and dune reshaping.
   - Reinforcement through vegetation planting to ensure stability and prevent re-erosion.
2. Re-vegetation and Dune Stabilization:

- Establishment of a plant nursery, in collaboration with the Ministry of Environment, to supply native dune plant species.
- Plantation schemes designed to stabilize sand, promote ecological restoration, and enhance biodiversity.

3. Controlled Access Measures:
   - Installation of pedestrian crossings and regulated access points along the dune belt to prevent degradation.
   - Fencing and signage to channel movement and limit disturbance.
4. Supporting Infrastructure and Logistics:
   - Borrow areas identified for sourcing sand and fill material, with transport routes mapped to minimize disruption.
   - Temporary construction facilities, storage sites, and access tracks to be established under environmental guidelines.
5. Nursery and Vegetation Management:
   - Dedicated nursery for propagating and maintaining dune plants.
   - Training and capacity building for local communities in nursery operation and vegetation management.

3 AREAS OF ANALYSIS

This report provides an assessment of habitats, which is dependent on Areas of Analysis (AoAs).

- The assessment of modified and natural habitat are based on site boundaries and no AoAs are specified.
- AoAs are specified for identifying protected areas and species detection is based on a 50 km buffer around the Nouadhibou EPBR (Figure 4), and a similar extent around Nouakchott City (Figure 7). These AoAs follow the IBAT (Integrated Biodiversity Assessment Tool) approach that applies a 50 km buffer due to the inherently low accuracy of most species distribution maps used by the IUCN Red List of Threatened Species, which is a key underlying source for data provided by IBAT.

4 ASSESSMENT OF MODIFIED AND NATURAL HABITATS

A core requirement of ESS6 is the classification of modified and natural habitats, whereby all habitats are categorized as either one or the other. This classification is necessary to establish the ESS6 requirement for No Net Loss of biodiversity (NNL)[(1)] in response to impacts to natural habitat. ESS6 provides clear definitions of modified and natural habitats (Table 1), which guide the approach to classification of habitats.

Table 1 ESS6 Definitions of Modified and Natural Habitat

Modified Habitat	**Natural Habitat**
ESS6 paragraph 19: Modified habitats are areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition.	*ESS6 paragraph 21*: Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

Both the Nouakchott Dune Rehabilitation and the Nouadhibou boat parking development are located in the Saharan Atlantic Coastal Desert ecoregion. This ecoregion forms a narrow coastal strip with the southern edge approx. 20 km south of Nouakchott, which stretches northwards along the Atlantic seaboard of Mauritania, Western Sahara almost to Morocco. It represents one of the most arid habitats in the world, shaped by the combined influence of the Sahara Desert and the cool Canary Current offshore. Terrestrial natural habitat is defined by its hyper-arid climate, minimal vegetation cover, and reliance on coastal and wetland features to sustain biodiversity, making it ecologically fragile and highly sensitive to disturbance.

Typical vegetation is extremely sparse and discontinuous, dominated by hardy shrubs adapted to the extreme arid conditions and succulents adapted to drought, high salinity, and shifting sands. Typical plant species include *Zygophyllum*, *Salsola*, *Suaeda*, and *Tamarix*, with scattered stands of *Acacia* and *Balanites* in more favorable microhabitats. Coastal salt flats and sebkhas support halophytes (salt tolerant plants) such as *Salicornia* and *Arthrocnemum*.

Wildlife diversity is low and restricted to a few specialized species. Although the coastline is associated with large temporary wetlands that are globally significant for migratory and

[(1)] NNL is defined by ESS6 (footnote 8) as the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, to undertake on-site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (e.g., local, landscape-level, national, regional).

wintering waterbirds, including large concentrations of waders, gulls, and terns that depend on intertidal flats, lagoons, and estuaries.

4.1.1 Nouadhibou Boat Parking Development

The project footprint is on the edge of Nouadhibou town. A review of Google Earth imagery suggests the site is located within the intertidal zone, which is a naturally unstable habitat. The ESIS states the sub-project site is devoid of natural vegetation and fauna due to anthropogenic disturbance and the harsh climate. No natural habitats are therefore expected.

4.1.2 Nouakchott Dune Rehabilitation

The Nouakchott Dune Rehabilitation is located within the close proximity of Nouakchott city. The above description of the Saharan Atlantic Coastal Desert ecoregion states the natural vegetation is fragile and highly sensitive to disturbance. Habitats in the close proximity of the city are therefore expected to be predominantly modified.

The ESIA does not classify the project-affected habitats as either modified or natural, while a review of imagery is reveals many small disturbances. The following observations are possible from Google Earth imagery:

- **Zone 1** - Considerable disturbance is visible within the proposed dune rehabilitation area, while the associated borrow areas show less evidence of disturbance.

- **Zone 2** – The northern part of the dune rehabilitation area shows many large shrubs, but much of the vegetation is arranged in rows, suggesting an anthropogenic influence that has been established for some time. The southern parts of this zone are largely devoid of vegetation with evidence of landscape alteration. The associated borrow areas are on the urban edge with much of evidence of disturbance.

- **Zone 3** - The dune rehabilitation area shows a blend of vegetated land and areas of vegetation, but with many footpaths crossing the area. The associated borrow area supports minimal vegetation and minimal disturbance. This borrow area is close to the beach and could be frequently influenced by extreme tides or weather disturbances creating an unstable vegetation.

Considering the fragile nature of the vegetation, the project footprint for dune rehabilitation appears to be largely modified, although the only means to confirm this status is through onsite assessment.

4.2 Conclusion regarding Natural Habitats

No natural habitats are expected in the vicinity of the Nouadhibou boat parking development. For the Nouakchott Dune Rehabilitation area, it is not possible to determine from a desktop assessment whether habitats are natural or modified, though they are likely to be predominantly modified. Some beach habitats may be unstable due to wave action, and any remaining natural areas are expected to be limited in extent. Given the vast areas of desert and extensive undisturbed coastline surrounding the sub-project, any potential loss of natural habitat would be negligible in the broader landscape context.

Accurate classification of habitats would require on-site verification; however, such assessment is not recommended, and the application of ESS6 No Net Loss requirements is not warranted for this project.

5 ASSESSMENT OF PROTECTED AREAS

ESS6 recognizes both legally protected and internationally recognized areas of high biodiversity value. The CHA approach (Chapter 6) requires an understanding of protected areas and the reasons for which they are designated. These protected areas are defined as:

- **Legally Protected Areas:** "A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." This includes areas proposed by governments for such designation.
- **Internationally Recognized Areas of High Biodiversity Value:** These areas are recognized by international conservation organizations and include Natural World Heritage Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas (KBA), Important Bird Areas (IBA), and Alliance for Zero Extinction (AZE) Sites, among others.

IBAT reports generated for the Nouadhibou, Nouakchott and Diawling National Park sub-projects identify three legally protected areas and multiple internationally recognized areas of biodiversity importance within Mauritania and within a 50 km buffer (Table 2). There is considerable overlap between the different types of protected areas.

Table 2 Summary of protected areas within Mauritania assessed in this report

Types of Protected Area	Proximity to Project		
	Nouadhibou Jetty	Nouakchott Dunes	Diawling National Park
Legally Protected Areas			
Banc d'Arguin National Park, Ramsar, World Heritage, KBA and IBA	Yes		
Baie de l'Etoile Multiple Use Area	Yes		
Diawling National Park, Ramsar Wetland, KBA and IBA			Yes
Internationally Recognized Areas of High Biodiversity value			
Dakhla are KBA and IBA	Yes		
Canary Current Shelf-break (north) KBA	Yes		
Cap Blanc KBA and IBA	Yes		
Aftout es Sâheli KBA and IBA		Yes	
Chott Boul Ramsar Wetland, KBA and IBA			Yes

Figure 4 Layout of legally protected areas identified by IBAT within a 50 km buffer of Nouadhibou town

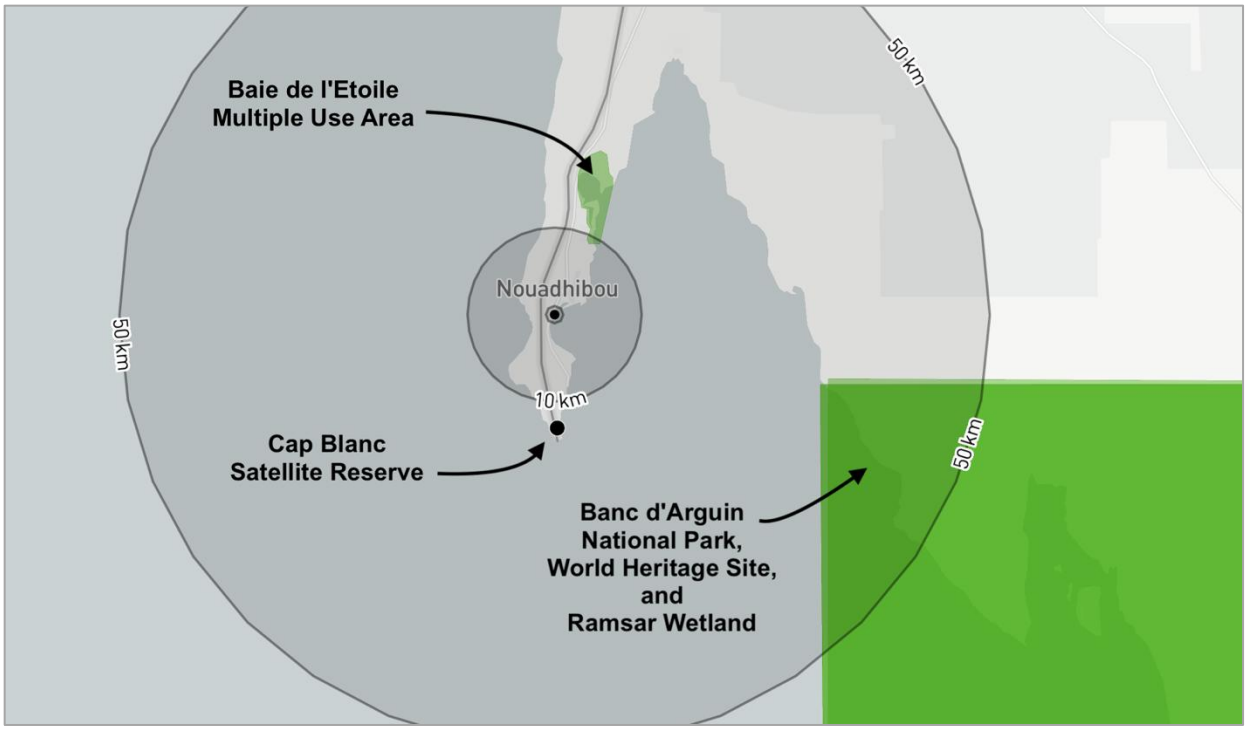


Figure 5 IBAT map illustrating the layout of Protected Areas within a 50 km buffer of the southern edge of Mauritania

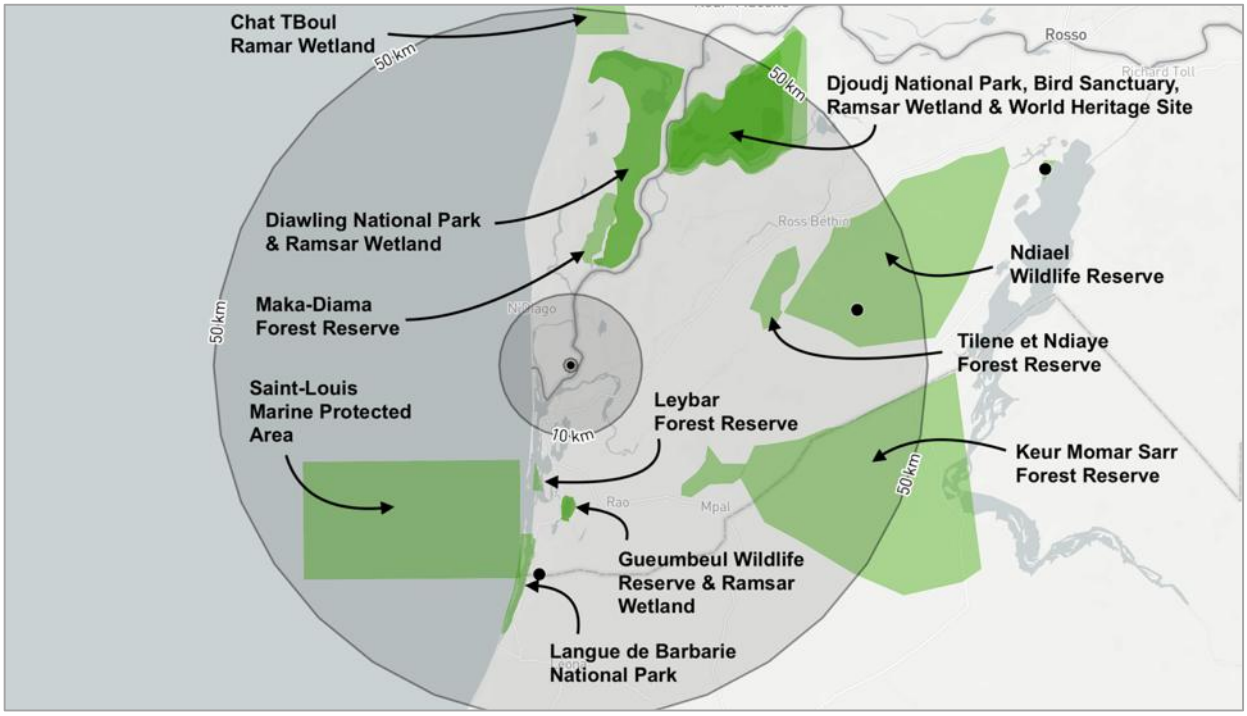


Figure 6 Key Biodiversity Areas within a 50 km buffer of Nouadhibou town

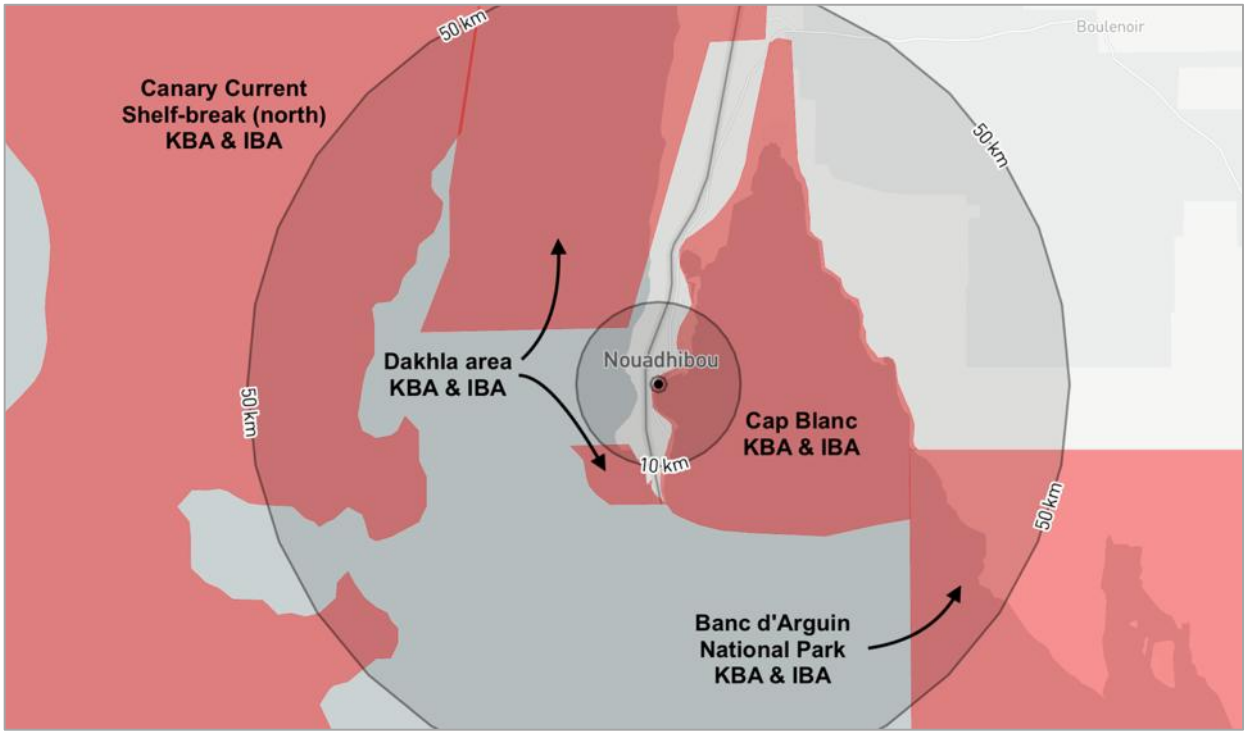


Figure 7 Key Biodiversity Areas within a 50 km buffer of the Dune Rehabilitation around Nouakchott City

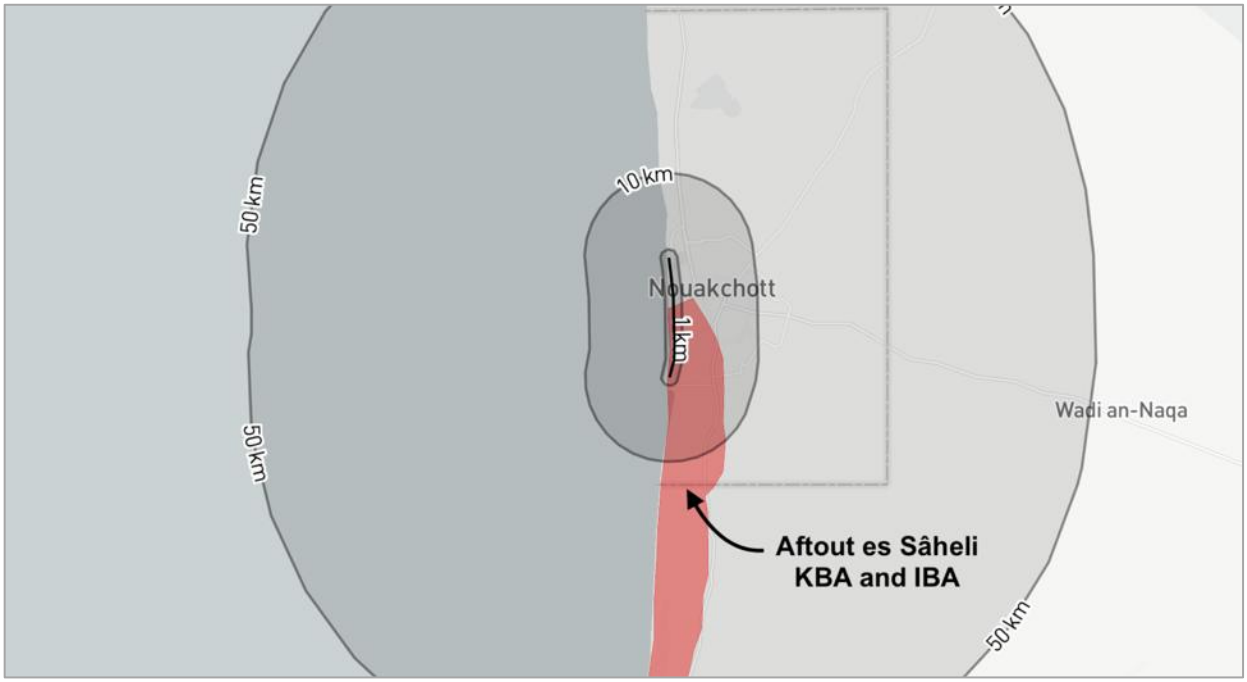
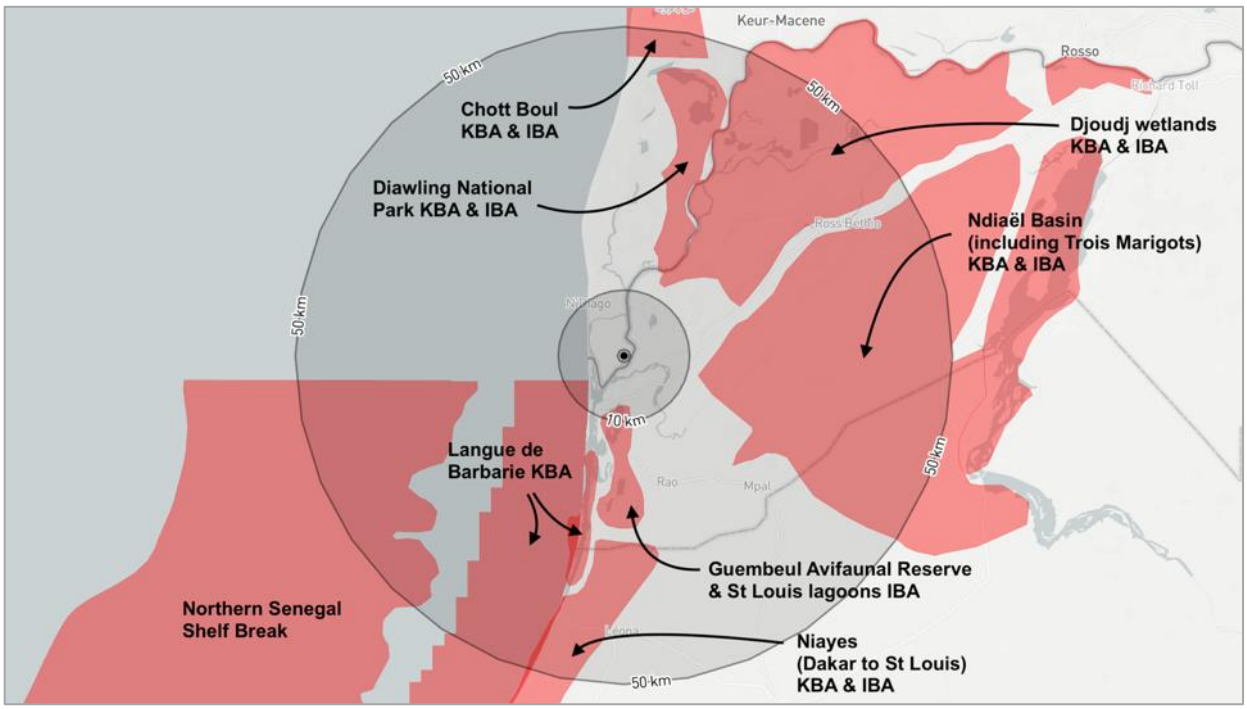


Figure 8 Key Biodiversity Areas within a 50 km buffer of the southern edge of Mauritania



5.1 Legally Protected Areas

Three legally protected areas are listed in Table 2, and described below, in order from north to south.

Baie de l'Étoile AMP

Baie de l'Étoile AMP (Multiple Use Area) lies just north of Nouadhibou on Mauritania's Atlantic coast. It is undergoing designation as one of Mauritania's marine protected areas to regulate coastal development and manage ecological resources sustainably. The bay includes coastal lagoons, tidal flats, submerged marshes, and seagrass beds. Its marine waters host dense benthic communities, especially tanaids and isopods, which dominate faunal abundance, and support diverse fish, crustacean, and mollusk populations. The bay functions as a dynamic interface between ocean and land, influenced by tidal flows, nutrient upwellings, and coastal processes. Ecologically, Baie de l'Étoile is a nascent marine conservation zone aiming to balance multiple uses, including fisheries, aquaculture, navigation, and conservation. It is valued for its potential to support waterbird foraging, nursery habitats, and coastal biodiversity in a region otherwise characterized by arid desert coastlines. The AMP designation reflects Mauritania's commitment to safeguarding coastal ecosystems while maintaining sustainable economic activities.

Banc d'Arguin National Park

This park is recognized as a global hotspot for bird conservation and marine biodiversity and is one of the most important coastal protected areas in West Africa. Established in 1976, it covers over 12,000 km² of shallow waters, mudflats, sandbanks, and islands along the Atlantic coast. The Park is designated as both a World Heritage Site and a Ramsar Wetland of International Importance. The Park provides critical habitat for vast numbers of migratory waterbirds on the East Atlantic Flyway, supporting one of the world's largest concentrations of wintering waders, including Dunlin, Bar-tailed Godwit, Grey Plover, Knot, and Curlew Sandpiper. It also holds significant breeding colonies of spoonbills, flamingos, pelicans, and cormorants. The park is recognized as an IBA based on important populations of 39 bird species, of which 24 are waterbirds (Appendix 2). This park is also recognized as a KBA for 22 bird species. The rich seagrass beds and shallow waters sustain large populations of fish and marine turtles. Banc d'Arguin combines exceptional biodiversity value with traditional human use, as local Imraguen fishers continue to practice sustainable fishing.

Diawling National Park

This park was established in 1991 to restore and conserve the degraded floodplains of the Mauritanian Senegal River delta. It is located in south-west Mauritania on the border with Senegal, covering 16,000 ha of wetlands, and more than 200,000 ha including its buffer and peripheral zones. The Park was designated a Ramsar Site in 1994 and, since 2005, has been part

of the Transboundary Biosphere Reserve of the Senegal River delta, forming a single ecological unit with Djoudj National Park, Langue de Barbarie National Park, and Gueumbeul Reserve in Senegal. Its habitats include lagoons, intertidal zones, mangroves, saline flats, dunes, and alluvial plains, sustained by managed inflows from OMVS hydraulic works. The Park provides critical habitat for migratory waterbirds on the East Atlantic Flyway, including large populations of pelicans, flamingos, storks, herons, and cranes. The park is recognized as an IBA based on important populations of 32 bird species, of which 16 are waterbirds (Appendix 2). This park is also recognized as a KBA for 15 bird species, with many overlapping the IBA criteria. Vegetation ranges from Acacia and Balanites on dunes to halophytes and grasses on floodplains. Diawling is one of West Africa's most important wetland protected areas, safeguarding biodiversity while supporting sustainable local livelihoods.

5.2 Internationally Recognized Areas of High Biodiversity Value

Many internationally recognized areas of high biodiversity value exist within Mauritania (Table 2, Figure 6, Figure 7 and Figure 8), of which several overlap protected areas described above. Four areas do not overlap and are described below, in order from north to south.

Dakhla IBA

Dakhla IBA encompasses the Cintra Bay / Dakhla Peninsula region in coastal Western Sahara. The site includes mudflats, tidal flats, shallow bay waters, and intertidal zones that form critical feeding and roosting habitat along the East Atlantic Flyway. This IBA is recognized for important populations of 16 bird species, and recognized as a KBA for the same bird species. Four of these are waterbirds (Appendix 2). It supports large congregations of migratory waders and shorebirds, such as Greater Flamingo, as well as diverse waterbird species during passage and wintering periods. The bay's productivity is enhanced by nearby upwelling waters and nutrient-rich currents, which sustain abundant marine life and attract birds in high numbers. Onshore, the peninsula is characterized by dunes with sparse arid vegetation and minimal terrestrial cover. The juxtaposition of desert landforms with rich intertidal zones gives Dakhla IBA its ecological importance. Because of its high usage by migrating waterbirds and its position in a largely undeveloped coastal corridor, Dakhla stands as a key site for bird conservation, especially as a vital stopover for species traversing the Atlantic coast of Africa.

Canary Current Shelf-break (North) KBA

Canary Current Shelf-Break (North) IBA extends along the offshore shelf-break waters north of Mauritania and southern Western Sahara, at depths roughly between 50 and 1,000 m. This marine zone lies within the productive waters of the Canary Current, benefiting from upwelling and oceanic nutrient mixing. The site functions as a key pelagic marine habitat, hosting abundant seabirds, of which eight are recognized as being significantly important seabird populations

(Appendix 2), including species such as Sooty Shearwater, Wilson's Storm-petrel, Cape Gannet, and various petrels and shearwaters that forage over deep ocean waters. Large marine predators (dolphins and tuna fish) also frequent the area, enhancing its faunal richness. Because of its offshore position and ecological productivity, the IBA plays a crucial role in supporting marine bird migration and foraging, acting as a pelagic refuge in an ocean of limited habitat. Its conservation importance lies in maintaining open ocean bird populations and marine biodiversity connectivity, especially for highly mobile, deep-sea species along the East Atlantic Flyway.

Cap Blanc IBA

Cap Blanc (Ras Nouadhibou) IBA is located on a 60-km peninsula straddling Mauritania and Western Sahara, forming a prominent headland on the Atlantic coast. The site includes mudflats, rocky shores, dunes, and intertidal zones, which provide essential resting and feeding habitat for migratory seabirds and shorebirds moving along the East Atlantic Flyway. It supports significant populations of waterbirds, including Slender-billed Gull, Lesser Black-backed Gull, Sandwich Tern, and Black-headed Gull, with seasonal congregations of five species that meet IBA thresholds (Appendix 2). Cap Blanc is also globally notable as one of the last refuges of the endangered Mediterranean monk seal, with a breeding colony still persisting in its coastal caves. Vegetation is sparse, reflecting the harsh desert environment, but the peninsula serves as an ecological boundary between warm-temperate and subtropical marine flora. Onshore, habitats are dominated by arid desert features, while tidal flats and rocky exposures provide rich feeding areas for birds and marine life. Cap Blanc IBA thus combines critical value for migratory waterbirds with unique marine biodiversity, making it a priority site for conservation in Mauritania.

Aftout es Sâheli KBA and IBA

Aftout es Saheli IBA lies just south of Nouakchott, encompassing coastal, lagoon and wetland terrains across approximately 58,000 ha. It includes dunes, sebkhas (salt flats), temporary water bodies, and flooded depressions, forming a mosaic of habitats between the ocean and inland zones. This expansive wetland system is a vital stopover and wintering area for migratory waterbirds along the East Atlantic Flyway, hosting significant populations of species such as terns, waders, herons, gulls, and shorebirds. The site meets IBA criteria for significant non-breeding congregations of bird species (Appendix 2). As an unprotected but recognized IBA, Aftout es Saheli underscores the importance of landscapes outside formal reserves in conserving biodiversity. The IBA plays a strategic role in maintaining habitat connectivity between coastal dunes, lagoons, and freshwater depressions, supporting both resident and migratory fauna in a semi-arid environment.

Chat Boul Ramsar Wetland

Chott Boul is a coastal wetland located approximately 175 km south of Nouakchott and 70 km north of the Senegal River mouth, covering around 8,000 ha. This site represents a former estuary of the Senegal River now isolated from direct river flow. Seasonally, Chott Boul may be inundated by Atlantic storm surges, with occasional managed overflow when upstream dams are opened. The landscape is dominated by intertidal flats, mudflats, shallow lagoons, and saline depressions. Vegetation is sparse and halophytic, favoring salt-tolerant shrubs and grasses. Chott Boul is internationally recognized for its importance to waterbird congregations on the East Atlantic Flyway, especially flamingos. In years when water levels are favorable, it supports large nesting colonies of Greater Flamingo. It is also the only known site in West Africa to host breeding attempts of Lesser Flamingo. Due to its strategic position and function as a seasonal wetland in an arid coastal setting, Chott Boul IBA is a critical balance between marine influence and inland ecological dynamics, contributing uniquely to Mauritania's network of wetland refuges. This Ramsar site is recognized as an IBA based on important populations of 4 bird species (Appendix 2). This park is also recognized as a KBA for 15 bird species, with many overlapping the IBA criteria.

5.3 Conclusion regarding Protected Areas

Several nationally designated and internationally recognized protected areas occur along the Mauritanian coast, many of which are of global significance for migratory birds and marine fauna. Terrestrial fauna are generally not referenced, and available descriptions of flora highlight their sparse distribution rather than diversity or endemism. The outstanding importance of this coastline for migratory birds forms a central element in the critical habitat assessment presented in Section 6.

6 CRITICAL HABITAT ASSESSMENT

6.1 Method for Critical Habitat Assessment

ESS6 recognizes areas supporting biodiversity of exceptional value as critical habitat. Critical habitat is defined by any of the following five criteria provided in ESS6 (paragraph 23):

(a) Habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of Threatened Species or equivalent national approaches;

(b) Habitat of significant importance to endemic or restricted-range species;

(c) Habitat supporting globally or nationally significant concentrations of migratory or congregatory species;

(d) Highly threatened or unique ecosystems;

(e) Ecological functions or characteristics that are needed to maintain the viability of the biodiversity values described above in (a) to (d).

The Critical Habitat Assessment (CHA) approach used for interpretation of the above criteria follows an ESS6-specific method developed in 2022 and has been applied in South Asia, East Asia, the Pacific and various Africa Regions of the World Bank. The CHA is applied to an area, which for this assessment will be the Area of Analysis (AoA) described in Section 3. The CHA approach is presented as the following four steps:

Step 1 - Generate a List of Threatened and Range-restricted Species

Criteria (a) and (c) require at least two key data sources, namely the global IUCN Red List and a national red list, which are supplemented from other sources as appropriate. Lists of species classified as CR or EN has been compiled primarily from the IUCN Red List of Threatened Species (provided by IBAT), with reference to national red list data for land mammals in Mauritania (Brito *et al.* 2022), provided in Appendix 5 for future reference purpose.

Step 2 - Screening based on Likelihood of Occurrence

The list of species generated by Step 1 were screened for Likelihood of Occurrence (LoO) based on primary data quoted in the ESIS and ESIA and the ecological state of habitats within the AoA. Species are classified into LoO categories, namely Present, Possible, Unlikely and Not Present (Appendix 1). Species present or with a possible presence are assessed in Step 3 below.

Step 3 - Determination of Critical Habitat Status

Reliable secondary data on a species' population size, extent of occurrence, other relevant information and expert opinion are used to assess species retained after Step 2. The following six guidelines are used for the interpretation and analysis of critical habitat:

(i) Recognized areas of high biodiversity value (such as legally protected and internationally recognized areas), and importantly the reasons for which they are designated can provide useful indicators of potential critical habitat. The review of protected areas is therefore included as a preparatory step for the assessment of critical habitat.

(ii) ESS6 Criterion (a) requires an assessment against both global (IUCN) and national red list ratings. ESS6 footnote 13 states that where the threatened status of a species is listed differently on the (global) IUCN Red List and national/regional lists, assessment of the impact of net reduction should be based on the national/regional population. This is interpreted as a requirement to follow a precautionary approach and to prioritize assessment of species reduction (project impact) to the lesser population of a species (i.e. the national assessment) over the global assessment.

(iii) By definition, Critically Endangered (CR) species face an extremely high risk of extinction and their continued survival in the wild is in a critical state. Therefore, if a surviving population of a CR species is present in the AoA, the habitat should be considered to have significant importance for the species under ESS6 Criterion (a).

(iv) Where a significant proportion of the national, regional or global population of a species is present or has a likely presence within the AoA, the habitat is considered to have significant importance for the species under ESS6 Criterion (a), (b) or (c). Each project is encouraged to develop its own measurement of significance. For this CHA, the presence (or likely presence) of ±1% of the global or national population within the AoA is considered an appropriate level of significance considering the extent of the Project AoA.

(v) ESS6 Criterion (b) can additionally be achieved for range-restricted species where the full extent of the AoA overlaps a significant proportion of a species' distribution range (±1% is considered an appropriate level of significance for this CHA). For terrestrial species, restricted range status is recognized for an Extent of Occurrence (EoO) of approx. 50,000 km².

(vi) ESS6 Criteria (d) and (e) must be assessed on a case-by-case basis using reliable data sources with consideration given to the presence of conservation initiatives, legally protected areas and internationally recognized areas of high biodiversity value and the reasons for which they are designated.

Step 4 - Identify Critical Habitat Features of Relevance to the Project

This final step of the CHA assesses the relevance of critical habitat features to the Project. ESS6 requires the project's mitigation strategy to achieve net gains of the biodiversity values for which a critical habitat is designated. Those features that are not impacted by a project do not present a risk that the project will fail to meet ESS6 requirements. For critical habitat features that are potentially impacted, the CHA needs to demonstrate how net gain requirements will be addressed, and feasibility thereof needs to be investigated. ESS6 also requires an appropriately designed, long-term biodiversity monitoring and evaluation program aimed at assessing the status of the critical habitat, and effectiveness of mitigation to conserve those species. The emphasis of CHA should therefore be on Step 4.

6.2 Analysis of Data for Steps 1 & 2 of the CHA Approach

Lists of CR or EN species potentially present within each of the project areas have been extracted from IBAT reports, but no restricted range species are identified. National red list data is available for land mammals in Mauritania (Brito *et al.* 2022), provided in Appendix 5, although no CR or EN species within that list are likely to occur in any of the Project areas. Distribution maps are not

provided by Brito *et al.* (2022) and restricted range species cannot be determined from the national red list data, although none are expected.

Appendix 1 presents an annotated list for 68 CR or EN threatened species based on the IUCN Red List. These comprise three aquatic/marine mammals, seven birds, three reptiles and many marine fish species that are possibly present.

6.3 Analysis of Data for Step 3 of the CHA Approach

A determination of critical habitat is based on desktop assessment and is presented collectively for the project areas along the Mauritania coast. Important species are discussed below.

6.3.1 Criteria (a) - Analysis of CR and EN Species

Mammals

Blue Whale (*Balaenoptera musculus*), Sei Whale (*Balaenoptera borealis*) and Atlantic Humpback Dolphins (*Sousa teuszii*) potentially occur, but available data suggests these Cetaceans are rare off the Mauritania coast. iNaturalist provides maps of the Global Biodiversity Information Forum (GBIF) which reveals isolated records. The species have wide distributions and the Mauritania coastal waters are unlikely provide habitat of significant importance for them.

The African Manatee (*Trichechus senegalensis*) is listed as Vulnerable (VU) on the IUCN Red List but is considered an EN species on many national red lists. Unfortunately Brito et al. (2022) only provide assessments for land mammals and Manatees are not included. The Senegal River is the northern limit of the Manatees range, and they are known to occur in the downstream reaches of the river. However, construction of the Diama Dam in 1986 has extirpated Manatees from Diawling National Park although they are expected within the AoA. Hippo (*Hippopotamus amphibius*), listed as CR by Brito et al (2022) suffered the same fate.

The Mauritania coast is not an important habitat for large land mammals, and data suggests that African Manatees may be the only mammal with the potential to qualify the recognition of critical habitat there.

Birds

Six vultures and Martial Eagle (*Polemaetus bellicosus*) are listed in Appendix 1 with a Possible LoO. These birds (with the exception of Egyptian Vulture) reach the northern limits of their distribution close to the Mauritania-Senegal border but eBird data suggests a likely occurrence in Diawling National Park. Egyptian Vulture (*Neophron percnopterus*) occur throughout North Africa, but eBird data is sparse for Mauritania which suggests they are scarce. None of these

birds are expected to qualify as critical habitat features. Data suggest the Mauritania coast does not support significantly important habitat for CR and EN bird species.

Reptiles

Hama *et al.* (2017) provide an assessment of sea turtle activity along the Mauritania coast, which reveals that Green Turtle (*Chelonia mydas*) and Loggerhead Turtle (*Caretta caretta*) are the dominant species nesting on the beaches, particularly associated with the Aftout es Sâheli KBA, south of Nouakchott City. Hawksbill Turtle (*Eretmochelys imbricata*), which are critically endangered, forage in significant numbers along the northern coast, particularly associated with Banc d'Arguin National Park. Population data on sea turtles is not available from the IUCN Red List, or other sources to test the significance of local populations, but Green and Hawksbill Turtles should be considered critical habitat qualifying species in areas where breeding activity occurs.

The African Spurred Tortoise potentially occurs in southern Mauritania. This is the World's third largest tortoise with a body mass up to 100 kg. The species occurs along the southern rim of the Sahara extending from Mauritania/Senegal across to Eritrea on the East coast of Africa. Populations have declined rapidly across its range due to agricultural expansion, livestock overgrazing, burning, and exploitation through collection of eggs and consumption of their meat. No population data is available, but the African Chelonian Institute estimates the wild population of African Spurred Tortoises in Senegal is 'at most' 150 individuals (Voice of Africa, 2022). Reintroduction programs for this tortoise are being implemented there which have achieved a survival rates up to 80% (Wikipedia). This tortoise should be considered a critical habitat feature, although it would not be impacted by the proposed projects.

Marine Fish

Appendix 1 lists 16 CR and EN fish species that are likely to occur off the Mauritania coast, however all of these species are wide-ranging, many with continental-wide or greater distributions. It is challenging to test the significance of marine habitats for specific species, however the Mauritanian coastal waters are documented to be important for marine biodiversity. This is due to several interlinked ecological and oceanographic factors, which collectively make Mauritania's coast a vital fisheries resource, not only for national food security and livelihoods but also for sustaining fish stocks across the broader western African marine ecosystem. Some of the important factors are:

- The Canary Current upwelling system brings nutrient-rich waters from the deep ocean to the shelf, supporting high primary productivity and food chains that sustain abundant fish populations.

- The shelf break, coastal lagoons, estuaries, and mangrove habitats provide essential nursery, feeding, and refuge zones for juvenile fish and commercially important species.
- The long coastal gradient from temperate to tropical zones allows both warm-water and more temperate marine species to coexist in Mauritania's waters.
- Finally, the coastline's relatively undeveloped status, compared with other regions, helps maintain habitat continuity and less fragmented ecosystems, allowing fish populations to thrive.

6.3.2 Criterion (b) - Analysis of Range-Restricted Species

No range restricted species are assessed for this study.

6.3.3 Criterion (c) - Analysis of Migratory and Congregatory Species

Birds are the taxonomic group most frequently triggering Criterion (c), and the Mauritanian coast supports an exceptionally rich diversity of migratory species, as evidenced by the numerous IBAs designated there. A review of IBA qualifying data reveals significant populations have been recorded for 96 bird species (see Appendix 2 and Appendix 4).

The Wetlands International WPE (Waterbirds Population Estimates) database identifies the regional flyways used by each species and provides estimates of population sizes within each flyway. Appendix 3 summarizes the relevant WPE data, including regional flyways, total population sizes, and 1% thresholds, while Appendix 2 compares the IBA population counts with those thresholds. The 1% threshold applied by Wetlands International to demonstrate international importance corresponds to the approx. 1% threshold used in this report to identify habitat of significant importance to qualify critical habitat for a species (Step 3(iv) - Section 6.1).

At least 105 bird populations occurring along the Mauritanian coast exceed the 1% thresholds of their regional flyway population, thereby qualifying as critical habitat features (Appendix 2). Of these, 13 populations represent more than 50% of their entire regional flyway populations, and an additional 10 populations exceed 20%. These results are extraordinary and underscore the global significance of the Mauritanian coastline for migratory waterbirds and its vital contribution to international flyway and wetland conservation efforts.

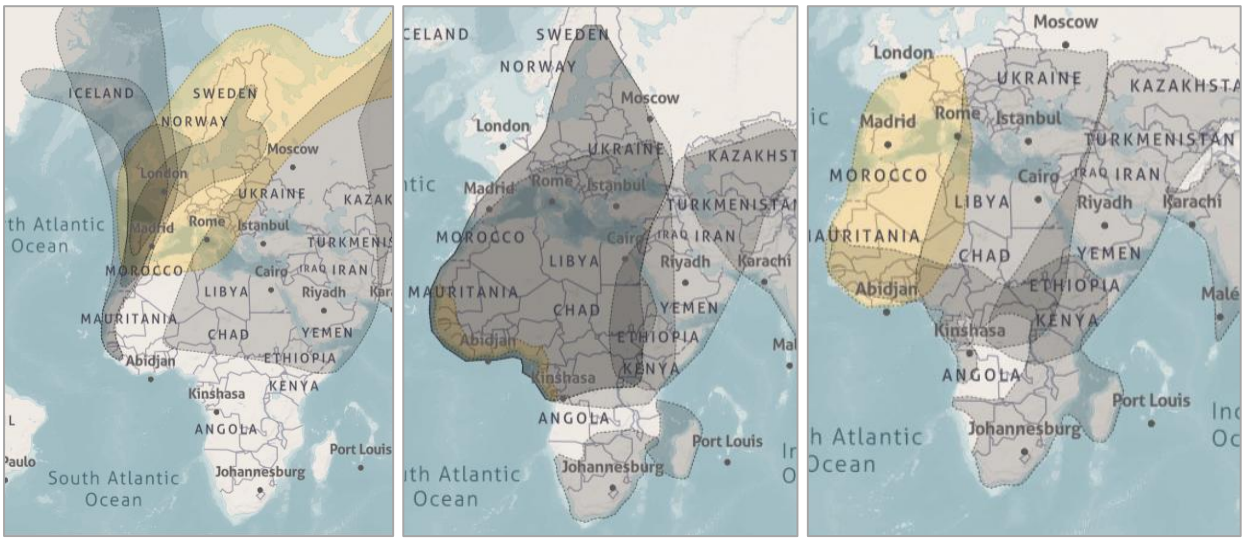
The exceptional importance of this region is attributed to several factors:

- The Mauritanian coast forms a vital link along the East Atlantic Flyway, used by millions of migratory birds.
- Its extensive wetlands, mudflats, lagoons, and shallow coastal waters, notably within Banc d'Arguin National Park, Aftout es Sâheli, and Diawling National Park, provide essential

feeding, resting, and breeding habitats for birds migrating between the Arctic, Europe, and sub-Saharan Africa.

- Its high marine productivity, driven by the Canary Current upwelling, sustains vast populations of invertebrates and fish that in turn support large flocks of waders, gulls, terns, and pelicans.
- The coast lies within a zone of flyway convergence for several species, such as Dunlin, Caspian Tern, and Black-crowned Night-Heron (Figure 9).

Figure 9 Three waterbird species showing their regional flyways that converge on the coast of West Africa



Dunlin (*Calidris alpina*) | Caspian Tern (*Hydroprogne caspia*) | Black-crowned Night-Heron (*Nycticorax nycticorax*)

6.3.4 Criteria (d) and (e) - Unique Ecosystems and Supporting Ecological Functions

Bird migrations are an important ecological function and the global significance of the Mauritania coast for supporting the many bird migrations could qualify under both Criteria (d) and (e). The IBA sites listed in Appendix 2 are important, but detailed assessment of congregation sites is needed to highlight the specific sites of importance.

6.4 Step 4 Assessment of Net Gain Requirements

ESS6 requires Net Gain measures to be demonstrated for critical habitat features where projects cause adverse residual impacts. The CHA method requires an analysis of net gain options, and an assurance that implementation of proposed options is feasible. Project impacts to sensitive biodiversity are considered for the Nouadhibou Boat Parking and Nouakchott Dune Rehabilitation sub-projects.

6.4.1 Impacts to Critical Habitat Features

Nouadhibou Boat Parking

The Nouadhibou site is within the small town, which is not expected to serve as a critical migratory bird stopover site, or a beach of importance for sea turtle nesting. The ESIS prepared for this project does not mention the importance of any biodiversity features. No significant impacts to critical habitat features are therefore expected.

Nouakchott Dune Rehabilitation

The Nouakchott Dune Rehabilitation is located on the city edge, and the affected areas are expected to be predominantly modified habitats (Section 4.1.2). The ESIA provides data on the presence of migratory waterbirds onsite (Table 3) but does not provide details on their abundance, which is needed to confirm their qualification as critical habitat. These migratory birds are present during the winter non-breeding season, during which time they are not site-specific and typically display flexible, wide-ranging behavior. Their presence along the beaches is therefore unpredictable. Some disturbance along the coast may occur during extraction of material from the borrow areas and building of dune formations. These birds are highly mobile and they are able to avoid localized disturbances by foraging elsewhere along the coast.

Table 3 Migratory waterbirds recorded within the Nouakchott Dune Rehabilitation site during ESIA baseline studies

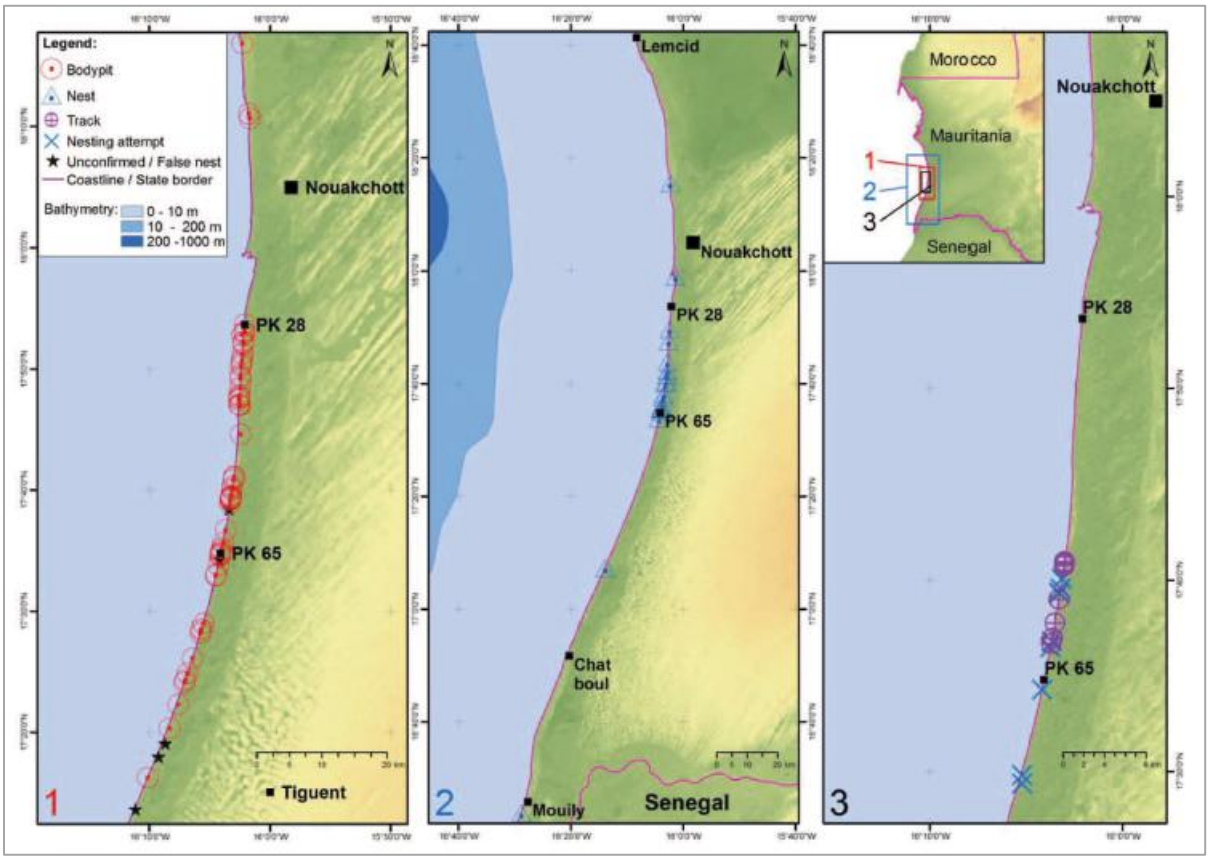
Migratory Waterbird species	1% of regional flyway exceeded	Critical Habitat
Caspian Tern (*Hydroprogne caspia*)	Aftout es Sâheli IBA, Banc dArguin Nat. Park, Cap Blanc IBA, Diawling National Park	Likely
Red Knot (*Calidris canutus*)	Banc dArguin National Park	Potentially
Sanderling (*Calidris alba*)	Banc dArguin National Park	Potentially
Northern Gannet (*Morus bassanus*)	Banc dArguin National Park	Potentially

Hama et al. (2018) provide maps of sea turtle nesting activity in the vicinity of Nouakchott (Figure 10) which suggest that they avoid nesting on beaches in the vicinity of the city. However, sea turtles do not have the high mobility enjoyed by birds, and if nesting activity does occur, the potential impact is far greater.

The likelihood of impacts to migratory waterbirds is high but the severity of the impact is low. Whereas for se turtles, the likelihood of impacts is low, but the potential severity could be higher.

Both sea turtles and migratory birds have access to vast undisturbed beaches north and south of Nouakchott and the significance of impacts to populations of these species is considered to be low. Impacts must however be mitigated.

Figure 10 Observed evidence of sea turtle nesting activity along the southern Mauritania coast, source: Hama et al. (2018)



The Nouakchott Dune Rehabilitation ESIA requires the following measures:

- Demarcate the work and access areas to limit these to the minimum required footprint;
- Phase the works to allow wildlife enough opportunity to escape without noise disturbance;
- Monitor the presence of exceptional concentrations of waterbirds linked to the East-Atlantic migration corridor (peaks observed between December and March), in active work areas particularly for Zone 3, which has the borrow area close to the beach habitat;
- Turn off machinery when not in use (including trucks and light vehicles);
- Carry out ecological monitoring during and after the works to study the impact on the birdlife and possibly other species in the area.

The above measures will be effective to reduce the significance of impacts, although the following additional measures can improve their effectiveness:

- Local ecologists must be employed to conduct early morning patrols along the beaches to search for turtle nesting activity. Patrols must begin three months prior to the start of construction and continue until the works are completed.
    - If any turtle nests are detected, the eggs must be translocated to predesignated safe beach habitats where they will receive protection. Protocols are established for translocating turtle nests and Hama et al. (2018) explain this has been successfully achieved in Mauritania.

- During construction works, ecologists must watch for the presence of migratory waterbird behavior along the beaches. Thresholds must be established, and if exceeded by numbers of birds, then construction works in the vicinity should be delayed for a week.
    - A threshold of 1000 waterbirds (collectively regardless of species) per 1 km length of beach is proposed, but should be refined based on prior monitoring of the habitat.

Residual Impact and Need for Additional Net Gain Measures

The presence of migratory waterbirds and sea turtle nesting is unpredictable, although measures to minimize impacts are easily implemented and are likely to be effective. However there is no certainty that impacts can be fully mitigated. Also monitoring the adverse effect of construction impacts will be challenging to assess.

The following measures are proposed as net gain actions:

- Provide support to local conservation organizations to monitor and protect sea turtles along the broader Nouakchott coast.
- The beaches must be cleaned of plastic waste and potential hazards to birds and sea turtles, such as discarded fishing gear.
- Rehabilitation of natural beach habitats, such as Mangroves, in the vicinity of Nouakchott can also be considered.
- Monitoring the presence of migratory birds and evidence of sea turtle nesting behavior can provide data that can demonstrate the effectiveness of the measures proposed in the ESIA, the additional measures and net gain actions.

These net gain measures need to be scoped and appropriate budgets allocated, but can be easily implemented.

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8 APPENDICES

The following Appendix is included:

Appendix 1 Critically Endangered (CR) and Endangered (EN) Species identified by IBAT

Appendix 2 Comparison of Waterbird Populations against Regional Flyway Thresholds for Important Bird Areas along the Mauritanian Coast

Appendix 3 Regional Flyway Data used to assess Population Significance of Waterbirds

Appendix 4 Non-waterbird species that qualify the Key Biodiversity Areas (KBAs) and Important Bird Areas (IBAs) along the Mauritania coast

Appendix 5 Mauritania National Red List for Land Mammals (Brito *et al.* 2022)

Appendix 1 Critically Endangered (CR) and Endangered (EN) Species identified by IBAT

Notes for interpretation of this appendix:

- Results in the following table present the outcome of Step 2 of the Critical Habitat Assessment against ESS6 criteria (a) for CR and EN species.
- Threatened Status acronyms: IUCN refers to the IUCN red List of Threatened Species; CR - Critically Endangered; EN – Endangered; VU - Vulnerable, NT - Near-threatened; DD - Data Deficient; LC - Least Concerned; NE (or blank) - Not Evaluated.
- Other acronyms: AoA – Area of Analysis, OoR – Out of Range.

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
Mammals							
Sei Whale (*Balaenoptera borealis*)	EN	Possible but rare	GBIF shows isolated records off the Mauritania coast	Yes	Yes	Yes	Yes
Blue Whale (*Balaenoptera musculus*)	EN	Possible	Atlantic Ocean offshore of Mauritania classified as Secondary Range (International Whale Commission). GBIF and iNaturalist show isolated records off the Mauritania coast	Yes	Yes	Yes	Yes
Atlantic Humpback Dolphin (*Sousa teuszii*)	CR	Possible but rare	GBIF shows isolated records off the Mauritania coast	Yes	Yes	Yes	Yes
African Manatee (*Trichechus senegalensis*)	VU	Present - Senegal River & Diawling NP	Predominantly estuarine species but does venture along the coast and migrates up large rivers. Senegal River is the northern limit of its distribution.				Yes
Birds							
Egyptian Vulture (*Neophron percnopterus*)	EN	Possible	Possible but rare in Nouadhibou, Noukachott and Diawling NP area (eBird, iNaturalist)	Yes	Yes	Yes	Yes
Hooded Vulture (*Necrosyrtes monachus*)	CR	Possible in	Present in Diawling NP area (eBird, iNaturalist)			Yes	Yes
White-backed Vulture (*Gyps africanus*)	CR	Possible in Diawling NP	Present in Diawling NP area (eBird, iNaturalist)				Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
Rüppell's Vulture (*Gyps rueppelli*)	CR	Possible	Marginally present in Diawling NP (eBird)			Yes	Yes
Lappet-faced Vulture (*Torgos tracheliotos*)	EN	Possible in Diawling NP	Possible in Diawling NP area (eBird, iNaturalist)			Yes	Yes
White-headed Vulture (*Trigonoceps occipitalis*)	CR	Possible in Diawling NP	Possible in Diawling NP area (eBird, iNaturalist)				Yes
Bateleur (*Terathopius ecaudatus*)	EN	Not present	eBird data does not show presence in Mauritania				Yes
Martial Eagle (*Polemaetus bellicosus*)	EN	Possible in Diawling NP	Present, but rare in the southern limits (eBird, iNaturalist)				Yes
Saker Falcon (*Falco cherrug*)	EN	Not present	Possible as a non-breeding migrant, but eBird data not showing presence in Mauritania	Yes	Yes	Yes	
Northern Bald Ibis (*Geronticus eremita*)	EN	Not present	IUCN status listed as 'Presence uncertain'. eBird data not showing presence in Mauritania	Yes	Yes	Yes	
Zino's Petrel (*Pterodroma madeira*)	EN	Not present	Not recorded in West Africa	Yes	Yes	Yes	Yes
Reptiles							
Green Turtle (*Chelonia mydas*)	EN	Likely	Nests along the Mauritania Coast, particularly along the Aftout es Sâheli KBA and Chat Boul Ramsar Site coasts (Hama & Dyc. 2018). Nesting activity has increased in recent years.	Yes	Yes	Yes	Yes
Hawksbill Turtle (*Eretmochelys imbricata*)	CR	Likely	Known to forage and nest in Mauritania, with significant numbers foraging along the coast of Banc d' Arguin Nat. Park.	Yes	Yes	Yes	Yes
African Spurred Tortoise (*Centrochelys sulcata*)	EN	Possible in Diawling NP	One of the largest terrestrial tortoises in the world (up to 100 kg). No specific habitat preference but frequently near ephemeral streams. Senegal River at northern limits of its recorded range.				Yes
Marine Fish							

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
Dusky Shark (*Carcharhinus obscurus*)	EN	Possible	Coastal and pelagic throughout its range, where it occurs from the surf zone to well offshore. GBIF shows records along Banc d'Arguin Nat Park coast.	Yes	Yes	Yes	Yes
Sand Tiger Shark (*Carcharias taurus*)	CR	Unlikely but Widespread	Demersal and pelagic in tropical and temperate seas on the continental shelf from the surf zone to a depth of 232 m, with near global distribution (IUCN Red List). No GBIF records exist off the Mauritania coast.	Yes	Yes	Yes	Yes
Basking Shark (*Cetorhinus maximus*)	EN	Unlikely but Widespread	A very big planktivorous coastal-pelagic species. No GBIF records exist around the bulge of West Africa	Yes	Yes	Yes	Yes
Smalltooth Sawfish (*Pristis pectinata*)	CR	Not present	Restricted to the Atlantic Ocean but potentially viable populations only exist in the southeast United States, Mexico, Bahamas, and Cuba (IUCN Red List).	Yes	Yes	Yes	Yes
Whale Shark (*Rhincodon typus*)	EN	Unlikely but widespread	Found in both coastal and oceanic habitats. Oceanic sightings are strongly correlated with temperature in the Indian and Atlantic oceans, a circumtropical distribution through all tropical and warm temperate seas, apart from the Mediterranean (IUCN Red List). No GBIF records exist around the bulge of West Africa.	Yes	Yes	Yes	Yes
Angelshark (*Squatina squatina*)	CR	Not present	Northern Mauritania coast is marginally within its distribution, with presence indicated as "uncertain". No GBIF records for Mauritania or Western Sahara.	Yes			
Shortfin Mako (*Isurus oxyrinchus*)	EN	Possible but rare	Pelagic species with a circumtropical distribution through all tropical and warm temperate seas, apart from the Mediterranean (IUCN Red List). GBIF indicates records off Banc d'Arguin Nat. Park coast.	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
Tope/School Shark (*Galeorhinus galeus*)	CR	Unlikely	A bentho-pelagic in temperate waters on continental and insular shelves, widely distributed in cold to warm temperate waters of most oceans. No GBIF records off North Africa coast	Yes	Yes	Yes	Yes
Common Smoothhound (*Mustelus mustelus*)	EN	Possible but rare	Occurs on sandy and muddy substrates on the continental shelf and slope at depths of 5–438 m, but is more commonly found in shallow waters from 5–50 m, in the east Atlantic Ocean, including the Mediterranean Sea (IUCN Red List). GBIF indicates isolated records off Mauritania coast	Yes	Yes	Yes	Yes
Oceanic Whitetip Shark (*Carcharhinus longimanus*)	CR	Not present	It is an oceanic-epipelagic shark usually found far offshore in the open sea, that occurs worldwide in tropical and temperate waters (IUCN Red List). No GBIF records off North Afr. Coast.	Yes	Yes	Yes	Yes
Scalloped Hammerhead (*Sphyrna lewini*)	CR	Possible but widespread	A coastal and semi-oceanic pelagic shark, found in continental and insular shelves, and nearby deep water, ranging from the intertidal and surface usually to 275 m depth (IUCN Red List). Occurs worldwide in tropical and temperate waters (IUCN Red List). Few isolated GBIF records off the Mauritania coast	Yes	Yes	Yes	Yes
Great Hammerhead (*Sphyrna mokarran*)	CR	Possible, rare but widespread	A solitary, coastal and semi-oceanic pelagic shark, that occurs close inshore and well offshore at depths ranging from near-surface to 300 m deep. Occurs worldwide in tropical and temperate waters (IUCN Red List). Single and very isolated GBIF record exists from Nouadhibou.	Yes	Yes	Yes	Yes
Porcupine Ray (*Urogymnus asperrimus*)	EN	Not present	Demersal on soft substrates and is mainly inshore and coastal to a depth of 130 m, but biology poorly-known due to rarity. Isolated distribution	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
			indicated on IUCN Red List, but not recognized on GBIF.				
Little Gulper Shark (*Centrophorus uyato*)	EN	Possible but widespread	Demersal on continental and insular shelves and slopes at depths of 210–1,400 m, and mostly between 400–800 m, with a widespread, yet patchy, global distribution in the Mediterranean Sea, Atlantic and Indo-Pacific Oceans (IUCN Red List). Few GBIF records indicated on continental shelf off Mauritania.				Yes
Bramble Shark (*Echinorhinus brucus*)	EN	Unlikely	Occurs on or near the bottom of outer continental and insular shelves and slopes at depths of 10–900 m (IUCN Red List). Single GBIF record off Mauritania coast.	Yes	Yes	Yes	Yes
Leafscale Gulper Shark (*Centrophorus squamosus*)	EN	Unlikely but Widespread	Demersal and pelagic on continental and insular shelves and slopes to the abyss yo depths of 3,366 m, mostly at depths >200 m (IUCN Red List). Scattered GBIF records off the continental shelf of Mauritania.	Yes	Yes	Yes	Yes
Duckbill Eagle Ray (*Aetomylaeus bovinus*)	CR	Possible but widespread	Demersal and semi-pelagic in estuaries, lagoons, and on the continental shelf to a depth of 150 m. Occurs around southern Europa and most of the West, South and East Africa coast (IUCN Red List). Several records off the northern Mauritania coast.	Yes	Yes	Yes	Yes
African Wedgefish (*Rhynchobatus luebberti*)	CR	Unlikely	Occurs from close inshore to depths of at least 35 m on the continental shelf, in the eastern Atlantic from Senegal to the Democratic Republic of the Congo and Angola (IUCN Red List).	Yes	Yes	Yes	Yes
Sicklefin Devil Ray (*Mobula tarapacana*)	EN	Not Present	Primarily oceanic, but is also found in coastal waters, and appears to be a seasonal visitor along productive coastlines with regular upwelling in oceanic island groups, and near offshore pinnacles	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
			and seamounts. Uncertain distribution off the West African coast (IUCN Red List). No GBIF records off Mauritania.				
Bentfin Devil Ray (*Mobula thurstoni*)	EN	Not Present	Occurs in neritic and oceanic waters from the surface to depths of 100 m. Uncertain distribution off the West African coast (IUCN Red List). No GBIF records off Mauritania.	Yes	Yes	Yes	Yes
Night Shark (*Carcharhinus signatus*)	EN	Unlikely	Pelagic and semi-oceanic on the outer continental shelf to a depth of 600 m but mostly, specimens have been collected from 26–365 m, along coastal Central America with specimens collected in Senegal, Gabon, Ghana, and Ivory Coast (IUCN Red List). No GBIF records along the Mauritania coast.				Yes
Longfin Mako (*Isurus paucus*)	EN	Not present	A poorly-known epi-, meso- and bathypelagic species found in tropical and warm-temperate seas, widespread in tropical and warm temperate waters, and likely occurs in all oceans, although its distribution is poorly recorded (IUCN Red List). No GBIF records off Mauritania.	Yes	Yes	Yes	Yes
European Eel (*Anguilla anguilla*)	CR	Not present	A freshwater eel in Europe that migrates to the ocean, but is seldom detected in the ocean habitat (IUCN Red List). Western Sahara coast is the southern limit of its range, with no GBIF records there.	Yes	Yes		
White Skate (*Rostroraja alba*)	EN	Possible but widespread	Demersal on the continental shelf and slope at depths of 10–750 m, along the Eastern Atlantic Ocean, from the western and southern coasts of the British Isles south to South Africa it extends to the southwestern parts of the Indian Ocean, including Madagascar and the Seychelles archipelago (IUCN Red List).	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
Sawback Angelshark (*Squatina aculeata*)	CR	Not present	Occurs along the southern Mediterranean coastIndicated as Presence Uncertain along the Mauritania coast (IUCN Red List). Isolated GBIF record exists off the Mauritania coast.	Yes	Yes	Yes	Yes
Smoothback Angelshark (*Squatina oculata*)	CR	Not present	A warm-temperate and tropical demersal species that inhabits sandy-muddy habitat on continental shelves and upper slopes from 10 to 500 m, in the Mediterranean from France and Tunisia, and from Mauritania to Senegal. Uncertain occurrence of possibly extinct south/east of Ghana (IUCN Red List).	Yes	Yes	Yes	Yes
Common Guitarfish (*Rhinobatos rhinobatos*)	CR	Possible but widespread	Demersal across sandy, muddy, and shelly habitats, and occurs inshore on the continental shelf to a depth of 180 m, in the eastern Atlantic Ocean and Mediterranean Sea and occurs from the southern Bay of Biscay to Angola (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes
Angular Roughshark (*Oxynotus centrina*)	EN	Not present	Demersal on the continental shelf and upper slope at depths of 35–805 m, found in the Northeast and Eastern Atlantic Ocean (from Norway to South Africa) and the Mediterranean Sea (IUCN Red List). Mauritania coast is OoR	Yes	Yes	Yes	Yes
Spiny Butterfly Ray (*Gymnura altavela*)	EN	Possible but widespread	Occurs in intertidal zone and shallow coastal waters to a depth of 150 m, but more typically in depths of less than 50 m, throughout the Atlantic Ocean and Mediterranean Sea and Black Sea, with a discontinuous range in the Americas (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
Whitespotted Guitarfish (*Rhinobatos albomaculatus*)	CR	Not present	Demersal in shallow coastal waters on the inner continental shelf to a depth of ~132 m, in the Eastern Central Atlantic and Southeast Atlantic and occurs from Mauritania (Parc National du Banc d'Arguin) to Angola (IUCN Red List). No GBIF records along the North Afr. coast.	Yes	Yes	Yes	Yes
Spineback Guitarfish (*Rhinobatos irvinei*)	CR	Not present	Demersal in shallow coastal waters on the inner-continental shelf to a depth of ~49 m, in the Eastern Central Atlantic and Southeast Atlantic and occurs from Morocco to Angola (IUCN Red List). No GBIF records along the North Afr. coast.	Yes	Yes	Yes	Yes
West African Torpedo (*Torpedo mackayana*)	EN	Not present	Demersal on sandy and muddy substrates, and found in the vicinity of estuaries, in shallow coastal waters at depths of 15–50 m, found in the Eastern Central Atlantic and Southeast Atlantic Oceans from Senegal to Angola (IUCN Red List). No GBIF records along the North Afr. coast.				Yes
Lusitanian Cownose Ray (*Rhinoptera marginata*)	CR	Possible but widespread	Occurs inshore over sandy substrates in shallow bays, lagoons and estuaries, from nearshore to a depth of 100 m, in the eastern Atlantic Ocean and Mediterranean Sea and occurs from Portugal to northern Angola (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes
Rosette Torpedo (*Torpedo bauchotae*)	EN	Not present	Demersal on sandy and muddy substrates in shallow coastal waters from inshore to a depth of 60 m, found in the Eastern Central Atlantic and Southeast Atlantic Oceans from Senegal to Angola (IUCN Red List). No GBIF records along the North Afr. coast.				Yes
Common Eagle Ray (*Myliobatis aquila*)	CR	Unlikely but widespread	Demersal and semi-pelagic in shallow coastal waters on the continental shelf and offshore to a	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
			depth of 537 m and often swims in groups, in the eastern Atlantic, including the Mediterranean Sea, and Western Indian Ocean (IUCN Red List). No GBIF records along the Mauritania coast.				
Smalltooth Stingray (*Hypanus rudis*)	CR	Unlikely	Occurs in estuarine and shallow coastal waters on the continental shelf from the surface to a depth of 30 m, in the Eastern Central Atlantic from Mauritania to Cameroon, including São Tomé and Príncipe. It is known from few fragmented records and is likely to have been historically confused with other dasyatid species occurring in the region (IUCN Red List). Several GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes
Atlantic Weasel Shark (*Paragaleus pectoralis*)	EN	Possible but widespread	Occurs inshore and offshore on the continental shelf to a depth of 100 m, found in the Eastern Central Atlantic and Southeast Atlantic Oceans from Mauritania to Namibia (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes
Norwegian Skate (*Dipturus nidarosiensis*)	EN	Not present	Demersal on the continental and insular shelves and slopes at depths of 125–1,573 m, and is most common from 200–1,000 m, found in the Eastern Atlantic Ocean, from Iceland and Norway to South Africa, including the Mid-Atlantic Ridge, and the Mediterranean Sea (IUCN Red List). No GBIF records along the Mauritania coast.			Yes	Yes
Oceanic Manta Ray (*Mobula birostris*)	EN	Not Present	An oceanic pelagic ray that occurs in places with regular upwelling along coastlines, oceanic islands, and offshore pinnacles and seamounts, with a circum-global in tropical and temperate waters from the surface to 1,000 m depth. Distribution off	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
			the Benin coast is uncertain (IUCN Red List). No GBIF records along the Mauritania coast.				
Senegalese Hake (*Merluccius senegalensis*)	EN	Possible	A demersal species that inhabits the continental shelf and upper slope off Morocco, Mauritania and Senegal from depths of 18 to 500 m (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes
Largetooth Sawfish (*Pristis pristis*)	CR	Not present	A euryhaline species that occurs at depths of 0–60 m, with juveniles occupying freshwater and estuarine habitats, and adults occurring in both estuarine and coastal waters. Widespread circumtropical distribution across the Western Atlantic, Eastern Pacific, Eastern Atlantic, and the Indo-West Pacific (IUCN Red List). No GBIF records around the bulge of West Africa.	Yes	Yes	Yes	Yes
Whitespotted Eagle Ray (*Aetobatus narinari*)	EN	Unlikely but widespread	Benthopelagic over the continental shelf from the surface to 60 m depth. It frequently enters lagoons and estuaries and is often associated with coral reef ecosystems. Occurs in the Atlantic Ocean. Widespread along the coast of the Americas. In the Eastern Central and Southeast Atlantic this species is thought to range from Mauritania south to Angola, and possibly South Africa (IUCN Red List). Single and very isolated GBIF record off Western Sahara, just north of Mauritania.				Yes
Cassava Croaker (*Pseudotolithus senegalensis*)	EN	Possible but widespread	This demersal species inhabits sandy, muddy and rocky substrates, in the eastern Atlantic from Morocco to Namibia, including Cabo Verde (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
Blackchin Guitarfish (*Glaucostegus cemiculus*)	CR	Possible	Occurs from close inshore to depths of at least 80 m on the continental shelf. Widely distributed in the eastern Atlantic Ocean from the northern coast of Portugal to Angola, including the Mediterranean Sea (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.	Yes	Yes	Yes	Yes
Spinetail Devil Ray (*Mobula mobular*)	EN	Unlikely but widespread	A pelagic species that resides in coastal and continental shelf waters. It spends the majority of its time in less than 50 m of water but occasionally dives to depths of 1,112 m, circum-global in temperate and tropical waters throughout all oceans (IUCN Red List). iNaturalist records at Dakar, but no GBIF records associated with Mauritania.	Yes	Yes	Yes	Yes
Atlantic Pygmy Devil Ray (*Mobula hypostoma*)	EN	Not Present	A schooling pelagic species of coastal and oceanic waters from the surface down to depths of 100 m, endemic to the Atlantic Ocean, where it is patchily distributed. Distribution off the Benin coast is uncertain (IUCN Red List). No GBIF records associated with W. or N. Africa.	Yes	Yes	Yes	Yes
African Gulper Shark (*Centrophorus lesliei*)	EN	Not present	Demersal on continental and insular slopes at depths of 340–610 m, with a patchy, yet widespread, distribution around Africa, known from the Mozambique Channel (Madagascar and Mozambique) in the Western Indian Ocean and from Morocco to Angola in the Eastern Atlantic Ocean (IUCN Red List). Only 2 GBIF records from Africa, and not associated with Mauritania.				Yes
Gulper Shark (*Centrophorus granulosus*)	EN	Possible but widespread	Demersal and benthopelagic on continental and insular shelves and slopes at depths of 50–1,500 m (possibly down to 2,307 m), and mostly 300–1,100	Yes	Yes	Yes	Yes

English Name (*Species Name*)	IUCN Status	LoO	Comment	Proximity to Project Component			
				Nouadhibou	Banc d' Arguin NP	Noukachott	Diawling Nat Park
			m, widespread, yet patchy, global distribution in the Atlantic and Indo-Pacific Oceans (IUCN Red List). Numerous GBIF records off the northern Mauritania coast.				
Seret's Butterfly Ray (*Gymnura sereti*)	EN	Unlikely	Occurs on sandy and muddy habitats and also enters estuaries ranging from the surface to a depth of 60 m, throughout the Eastern Central and Southeast Atlantic from Mauritania to Angola (IUCN Red List). Various GBIF records for Senegal, but none for Mauritania.				Yes
Pleiodon ovatus	CR	Not present	An inland mussel, but indicated on IUCN Red List as possibly extinct along the Senegal River, which is northern limits of its range. No GBIF records exist for this species.				Yes

Appendix 2 Comparison of Waterbird Populations against Regional Flyway Thresholds for Important Bird Areas along the Mauritanian Coast

Notes for interpretation of this Appendix:

- Bird species are listed based on qualifying species for the respective IBAs and KBAs
- Threatened Status acronyms - refer to Appendix 1.
- IBA Criteria: GLOBAL CRITERIA - A1: Globally threatened species (site sustains significant numbers of IUCN Red List CR, EN and VU species). A4: Congregations (site regularly sustains congregations of ≥1% of the global population). REGIONAL CRITERIA - B1: Species of conservation concern – a. Near threatened species, b. Species with an unfavorable conservation status in the region. B3: Regionally important congregations – a. Biogeographical populations (includes Criteria A4i & A4ii), b. Multi-species aggregations, c. Bottleneck sites.
- KBA Criteria: B1 - Individual geographically restricted species. D1 - Demographic aggregations for sites that predictably hold: a) an aggregation ≥1% of the global population size of a species, over a season, and during one or more key stages of its life cycle; b) a number of mature individuals that ranks the site among the largest 10 aggregations known for the species.
- WPE 1% thresholds refer to regional flyway populations extracted from the Wetlands International Waterbirds Population Estimates (WPE) online database (see Appendix 3).
- Migratory behavior: Yes – species global distribution map shows separate breeding and non-breeding areas.
- Row shading: Brown shading - population exceeds WPE threshold; Blue shading - population exceeds WPE threshold by >20%; Orange shading –population exceeds WPE threshold by >50%.

Bird Species	IUCN Status	Population Size	Seasonal Presence	IBA criteria	KBA criteria	WPE 1% threshold	Threshold Exceedance		Migratory behavior
							Lower	Upper	
Banc d'Arguin National Park									
Bar-tailed Godwit (*Limosa lapponica*)	NT	172,154 to 247,894	Winter	A4, B1a, B3a	B1, D1a	5,000	34.4	49.6	Yes
Caspian Tern (*Hydroprogne caspia*)	LC	2,865 to 4,631	Non-breeding	A4, B3a	D1a	210	13.6	22.1	Yes
Common Greenshank (*Tringa nebularia*)	LC	5,581 to 6,063	Winter	B3a	-	2,900	1.9	2.1	Yes
Common Gull-billed Tern (*Gelochelidon nilotica*)	LC	331 to 620	Winter	B3a	-	330	1.0	1.9	Yes
Common Redshank (*Tringa totanus*)	LC	65,139 to 85,538	Winter	A4, B3a	D1a	2,000	32.6	42.8	Yes
Common Ringed Plover (*Charadrius hiaticula*)	LC	48,047 to 75,137	Winter	A4, B3a	B1, D1a	2,400	20.0	31.3	Yes
Common Tern (*Sterna hirundo*)	LC			-	B1	10	Not exceeded		Yes

Bird Species	IUCN Status	Population Size	Seasonal Presence	IBA criteria	KBA criteria	WPE 1% threshold	Threshold Exceedance		Migratory behavior
							Lower	Upper	
Curlew Sandpiper (*Calidris ferruginea*)	VU	52,721 to 76,069	Winter	A4, B1a, B3a	B1, D1a	4,000	13.2	19.0	Yes
Dunlin (*Calidris alpina*)	NT	567,432 to 852,934	Winter	A4, B3a	B1, D1a	8,180	69.4	104.3	Yes
Eurasian Curlew (*Numenius arquata*)	NT	5,170 to 5,723	Winter	B1a	D1a	7,600	Not exceeded		Yes
Eurasian Oystercatcher (*Haematopus ostralegus*)	NT	6,334 to 7,507	Winter	B1a	-	8,200	Not exceeded		Yes
Eurasian Spoonbill (*Platalea leucorodia*)	LC	6,431 to 8,890	Winter	A4, B3a	B1, D1a	20	321.6	444.5	Yes
Great Cormorant (*Phalacrocorax carbo*)	LC	7,879 to 14,589	Non-breeding	B3a	-	400	19.7	36.5	Yes
Great White Pelican (*Pelecanus onocrotalus*)	LC	4,327 to 7,775	Non-breeding	A4, B3a	D1a	600	7.2	13.0	Yes
Greater Flamingo (*Phoenicopterus roseus*)	LC	35,139 to 95,943	Non-breeding	A4, B3a	-	1,100	31.9	87.2	No
Grey Plover (*Pluvialis squatarola*)	VU	26,070 to 30,202	Winter	A4, B3a	D1a	2,000	13.0	15.1	Yes
Kentish Plover (*Charadrius alexandrinus*)	LC	4,899 to 8,887	Winter	A4, B3a	D1a	510	9.6	17.4	Yes
Lesser Black-backed Gull (*Larus fuscus*)	LC	10,409 to 16,391	Winter	A4, B3a	-	4,900	2.1	3.3	Yes
Lesser Flamingo (*Phoeniconaias minor*)	NT	99	Non-breeding	B1a	-	270	Not exceeded		Yes
Little Egret (*Egretta garzetta*)	LC	1,344 to 2,152	Non-breeding	B3a	-	3,200	Not exceeded		Yes
Little Stint (*Calidris minuta*)	LC	25,042 to 38,808	Winter	A4, B3a	D1a	3,000	8.3	12.9	Yes
Little Tern (*Sternula albifrons*)	LC	415 to 999	Winter	B3a	-	210	2.0	4.8	Yes
Long-tailed Cormorant (*Microcarbo africanus*)	LC	1,901 to 2,938	Non-breeding	B3a	D1a	400	4.8	7.3	No
Red Knot (*Calidris canutus*)	NT	167,320 to 200,565	Winter	A4, B1a, B3a	B1, D1a	2,500	66.9	80.2	Yes

Bird Species	IUCN Status	Population Size	Seasonal Presence	IBA criteria	KBA criteria	WPE 1% threshold	Threshold Exceedance		Migratory behavior
							Lower	Upper	
Royal Tern (*Thalasseus maximus*)	LC			-	D1a	2,200	Population data not available		Yes
Ruddy Turnstone (*Arenaria interpres*)	NT	9,563 to 11,074	Winter	A4, B3a	D1a	620	15.4	17.9	Yes
Sanderling (*Calidris alba*)	LC	45,820 to 49,437	Winter	A4, B3a	D1a	2,000	22.9	24.7	Yes
Sandwich Tern (*Thalasseus sandvicensis*)	LC	9,180		-	D1a	1,700	Not exceeded		Yes
Slender-billed Gull (*Larus genei*)	LC	3,352 to 4,855	Non-breeding	A4, B3a	D1a	270	12.4	18.0	Yes
Western Reef-egret (*Egretta gularis*)	LC	1,173 to 1,638	Non-breeding	A4, B3a	D1a	220	5.3	7.4	Yes
Whimbrel (*Numenius phaeopus*)	LC	24,248 to 27,337	Winter	A4, B3a	D1a	3,100	7.8	8.8	Yes
Cap Blanc									
Slender-billed Gull (*Larus genei*)	LC	150	Winter	A4i	-	270	Not exceeded		Yes
Caspian Tern (*Hydroprogne caspia*)	LC	10,000	Winter	A4i	D1a	210	0.0	47.6	Yes
Lesser Black-backed Gull (*Larus fuscus*)	LC	15,000	Winter	A4i	-	4,900	0.0	3.1	Yes
Sandwich Tern (*Thalasseus sandvicensis*)	LC	20,000	Winter	A4i	D1a	1,700	0.0	11.8	Yes
Ruddy Turnstone (*Arenaria interpres*)	NT	1,000	Winter	A4i	-	620	0.0	1.6	Yes
Dakhla area									
Sanderling (*Calidris alba*)	LC	1,200	Winter	A4i	Yes	2,000	Not exceeded		Yes
Lesser Black-backed Gull (*Larus fuscus*)	LC	6,000	Winter	A4i	Yes	4,900	0.0	1.2	Yes
Sandwich Tern (*Thalasseus sandvicensis*)	LC	2,800	Winter	A4i	Yes	1,700	0.0	1.6	Yes
Ruddy Turnstone (*Arenaria interpres*)	NT	700	Winter	A4i	Yes	620	0.0	1.1	Yes
Canary current shelf-break (north)									

Bird Species	IUCN Status	Population Size	Seasonal Presence	IBA criteria	KBA criteria	WPE 1% threshold	Threshold Exceedance		Migratory behavior
							Lower	Upper	
Audubon's Shearwater (*Puffinus lherminieri*)	LC	1,041 to 4,655	Resident	A4ii	Yes	-	Marine species - threshold not available		No
Great Skua (*Catharacta skua*)	LC	3,000	Non-breeding	A4ii	Yes	420	0.0	7.1	Yes
Northern Gannet (*Morus bassanus*)	LC	260,000	Non-breeding	A4ii	Yes	16,000	0.0	16.3	Yes
Pomarine Jaeger (*Stercorarius pomarinus*)	LC	26,250	Non-breeding	A4ii	Yes	-	Marine species - threshold not available		Yes
Red Phalarope (*Phalaropus fulicarius*)	LC	12,200	Non-breeding	A4i	Yes	15,700	Not exceeded		Yes
Aftout es Sâheli									
Eurasian Spoonbill (*Platalea leucorodia*)	LC	722 to 1,202	Winter	A4, B3a	-	20	36.1	60.1	Yes
Black-tailed Godwit (*Limosa limosa*)	NT	304 to 602	Winter	B1a	-	790	Not exceeded		Yes
Pied Avocet (*Recurvirostra avosetta*)	LC	664 to 749	Winter	B3a	-	940	Not exceeded		Yes
Lesser Flamingo (*Phoeniconaias minor*)	NT	6,552 to 12,000	Non-breeding	B1a, B3a	-	270	24.3	44.4	Yes
Slender-billed Gull (*Larus genei*)	LC	309 to 696	Non-breeding	B3a	-	270	1.1	2.6	Yes
Northern Shoveler (*Spatula clypeata*)	LC	10,60 to 15,442	Winter	B3a	-	5,200	1.9	3.0	Yes
Caspian Tern (*Hydroprogne caspia*)	LC	420 to 1,269	Non-breeding	B3a	-	210	2.0	6.0	Yes
Red Knot (*Calidris canutus*)	NT	246 to 515	Winter	B1a	-	2,500	Not exceeded		Yes
Common Gull-billed Tern (*Gelochelidon nilotica*)	LC	221 to 461	Winter	B3a	-	330	0.7	1.4	Yes
Kittlitz's Plover (*Charadrius pecuarius*)	LC	152 to 330	Non-breeding	B3a	-	320	0.5	1.0	No
Curlew Sandpiper (*Calidris ferruginea*)	VU	212 to 277	Winter	B1a	-	4,000	Not exceeded		Yes
Bar-tailed Godwit (*Limosa lapponica*)	NT	55 to 129	Winter	B1a	-	5,000	Not exceeded		Yes

Bird Species	IUCN Status	Population Size	Seasonal Presence	IBA criteria	KBA criteria	WPE 1% threshold	Threshold Exceedance		Migratory behavior
							Lower	Upper	
Northern Pintail (*Anas acuta*)	LC	15,183 to 21,005	Winter	B3a	-	5,800	2.6	3.6	Yes
Great Cormorant (*Phalacrocorax carbo*)	LC	1,55 to 2,378	Non-breeding	B3a	-	400	2.6	5.9	Yes
Greater Flamingo (*Phoenicopterus roseus*)	LC	20,311 to 37,863	Non-breeding	A4, B3a	D1a	1,100	18.5	34.4	No
Garganey (*Spatula querquedula*)	LC			-	D1a	13,400	Population data not available		Yes
Great White Pelican (*Pelecanus onocrotalus*)	LC			-	D1a	600	Population data not available		Yes
Eurasian Spoonbill (*Platalea leucorodia*)	LC			-	D1a	20	Population data not available		Yes
Kentish Plover (*Charadrius alexandrinus*)	LC			-	D1a	510	Population data not available		Yes
Chott Boul									
Eurasian Spoonbill (*Platalea leucorodia*)	LC	197 to 292	Winter	B3a	-	20	9.9	14.6	Yes
Black-tailed Godwit (*Limosa limosa*)	NT	20 to 60	Winter	B1a	D1a	790	Not exceeded		Yes
Curlew Sandpiper (*Calidris ferruginea*)	VU	187 to 518	Winter	B1a	-	4,000	Not exceeded		Yes
Bar-tailed Godwit (*Limosa lapponica*)	NT	37	Winter	B1a	-	5,000	Not exceeded		Yes
Pied Avocet (*Recurvirostra avosetta*)	LC		Winter	-	D1a	940	Population data not available		Yes
Diawling National Park									
African Spoonbill (*Platalea alba*)	LC			-	D1a	440	Population data not available		No
Bar-tailed Godwit (*Limosa lapponica*)	NT	48 to 168	Winter	B1a		5,000	Not exceeded		Yes
Black Crowned Crane (*Balearica pavonina*)	VU	82 to 166	Non-breeding	A1, B3a		85	1.0	2.0	No
Black Stork (*Ciconia nigra*)	LC	12 to 24	Winter	B3a		45	Not exceeded		Yes

Bird Species	IUCN Status	Population Size	Seasonal Presence	IBA criteria	KBA criteria	WPE 1% threshold	Threshold Exceedance		Migratory behavior
							Lower	Upper	
Black-tailed Godwit (*Limosa limosa*)	NT	550 to 941	Winter	B1a		790	0.7	1.2	Yes
Caspian Tern (*Hydroprogne caspia)*	LC	707 to 995	Non-breeding	B3a	Yes	210	3.4	4.7	Yes
Collared Pratincole (*Glareola pratincola*)	LC	1,064 to 2,439	Winter	B3a		200	5.3	12.2	Yes
Common Gull-billed Tern (*Gelochelidon nilotica*)	LC	248 to 496	Winter	B3a		330	0.8	1.5	Yes
Curlew Sandpiper (*Calidris ferruginea*)	VU	166 to 299	Winter	B1a		4,000	Not exceeded		Yes
Egyptian Goose (*Alopochen aegyptiaca*)	LC	868 to 979	Non-breeding	B3a		70	12.4	14.0	No
Eurasian Spoonbill (*Platalea leucorodia*)	LC	966 to 1,662	Winter	A4, B3a	Yes	20	48.3	83.1	Yes
Fulvous Whistling-duck (*Dendrocygna bicolor*)	LC	10,283 to 22,888	Non-breeding	A4, B3a		320	32.1	71.5	No
Garganey (*Spatula querquedula*)	LC	25,672 to 67,527	Winter	A4, B3a		13,400	1.9	5.0	Yes
Glossy Ibis (*Plegadis falcinellus)*	LC	332-619	Winter	B3a		1,000	Not exceeded		Yes
Great Cormorant (*Phalacrocorax carbo*)	LC	4,802 to 7,181	Non-breeding	B3a		400	12.0	18.0	Yes
Great White Egret (*Ardea alba*)	LC	1,130 to 1,526	Non-breeding	B3a	Yes	2,200	Not exceeded		Yes
Great White Pelican (*Pelecanus onocrotalus*)	LC	6,18 to 10,122	Non-breeding	A4, B3a	D1a	600	10.5	16.9	Yes
Greater Flamingo (*Phoenicopterus roseus*)	LC	2,251 to 3,017	Non-breeding	B3a	Yes	1,100	2.0	2.7	No
Lesser Flamingo (*Phoeniconaias minor*)	NT	1,776 to 4,801	Non-breeding	B1a, B3a	Yes	270	6.6	17.8	Yes
Little Stint (*Calidris minuta*)	LC	1,271 to 3,398	Winter	B3a		3,000	0.4	1.1	Yes
Long-tailed Cormorant (*Microcarbo africanus*)	LC	962-2,462	Winter	B3a		400	2.4	6.2	No

Bird Species	IUCN Status	Population Size	Seasonal Presence	IBA criteria	KBA criteria	WPE 1% threshold	Threshold Exceedance		Migratory behavior
							Lower	Upper	
Marbled Duck (*Marmaronetta angustirostris*)	NT	55 to 108	Non-breeding	A1, B3a		65	0.8	1.7	Yes
Northern Pintail (*Anas acuta*)	LC			-	Yes	5,800	Not exceeded		Yes
Northern Shoveler (*Spatula clypeata*)	LC	9,798 to 18,931	Winter	B3a	Yes	5,200	1.9	3.6	Yes
Pied Avocet (*Recurvirostra avosetta*)	LC			-	Yes	940	Not exceeded		Yes
Red Knot (*Calidris canutus*)	NT	70 to 129	Winter	B1a		2,500	Not exceeded		Yes
Slender-billed Gull (Larus genei)	LC	365 to 729	Non-breeding	B3a	Yes	270	1.4	2.7	Yes
Spur-winged Goose (*Plectropterus gambensis*)	LC	1,185 to 1,669	Non-breeding	B3a		710	1.7	2.4	No
Squacco Heron (*Ardeola ralloides*)	LC	176 to 262	Non-breeding	B3a		100	1.8	2.6	Yes
White-faced Whistling-duck (*Dendrocygna viduata*)	LC	20,039 to 36,323	Non-breeding	A4, B3a		(1)	Threshold not available		No

Appendix 3 Regional Flyway Data used to assess Population Significance of Waterbirds

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

Bird Species	IUCN Status	Regional Flyway Population	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory
Squacco Heron (*Ardeola ralloides*)	LC	ralloides, SW Europe, NW Africa (bre)	9,000 - 11,000	100	2002 -2018	Yes
Cattle Egret (*Bubulcus ibis*)	LC	ibis, Tropical Africa	1,000,000 - 10,000,000	30,000	1990 - 2001	Yes
Black Heron (*Egretta ardesiaca*)	LC	Sub-Saharan Africa	25,000 - 100,000	1000	1999	No
Little Egret (*Egretta garzetta*)	LC	garzetta, Sub-Saharan Africa	200,000 - 500,000	3200	2001	Yes
Western Reef-egret (*Egretta gularis*)	LC	gularis, West Africa	10,000 - 50,000	220	1991 - 2018	Yes
Black-crowned Night Heron (*Nycticorax nycticorax*)	LC	nycticorax, W Europe, NW Africa (bre)	47,000 - 57,000	480	2003 - 2018	Yes
Family: CHARADRIIDAE (Plovers)						
Kentish Plover (*Charadrius alexandrinus*)	LC	alexandrinus, West Europe & West Mediterranean/West Africa	40,000 - 65,000	510	2007 - 2018	Yes
Common Ringed Plover (*Charadrius hiaticula*)	LC	psammodromus, Canada, Greenland & Iceland/W & S Africa	240,000	2400	2010 - 2014	Yes
Kittlitz's Plover (*Charadrius pecuarius*)	LC	West Africa	20,000 - 50,000	320	2001	No
Grey Plover (*Pluvialis squatarola*)	VU	squatarola, W Siberia/W Europe & W Africa	200,000	2000	2010 - 2018	Yes
Family: CICONIIDAE (Storks)						
Black Stork (*Ciconia nigra*)	LC	South-west Europe/West Africa	3,800 - 4,800	45	2013 - 2018	Yes
Yellow-billed Stork (*Mycteria ibis*)	LC	Sub-Saharan Africa (excluding Madagascar)	75,000 - 150,000	1100	2006 - 2014	No
Family: GLAREOLIDAE (Pratincoles)						
Collared Pratincole (*Glareola pratincola*)	LC	pratincola, Western Europe & NW Africa/West Africa	15,000 - 26,000	200	2003 - 2018	Yes
Family: GRUIDAE (Cranes)						
Black Crowned Crane (*Balearica pavonina*)	VU	pavonina, West Africa (Senegal to Chad)	5,000 - 15,000	85	2010	No
Family: HAEMATOPODIDAE (Oystercatchers)						
Eurasian Oystercatcher (*Haematopus ostralegus*)	NT	ostralegus, Europe/South & West Europe & NW Africa	750,000 - 970,000	8200	2007 - 2018	Yes

Bird Species	IUCN Status	Regional Flyway Population	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory
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
Common Gull-billed Tern (*Gelochelidon nilotica*)	LC	nilotica, Western Europe/West Africa	28,000 - 38,000	330	1972 - 2018	Yes
Caspian Tern (*Hydroprogne caspia*)	LC	West Africa (bre)	21,000 - 22,000	210	2019	Yes
Grey-headed Gull (*Larus cirrocephalus*)	LC	poiocephalus, West Africa	25,000 - 30,000	270	2010 - 2014	Yes
Lesser Black-backed Gull (*Larus fuscus*)	LC	graellsii, Western Europe/Mediterranean & West Africa	480,000 - 500,000	4900	1981 - 2018	Yes
Slender-billed Gull (*Larus genei*)	LC	West Africa (bre)	24,000 - 30,000	270	2003 - 2019	Yes
Common Tern (*Sterna hirundo*)	LC	hirundo, W Africa (bre)	1200	10	2001	Yes
Little Tern (*Sternula albifrons*)	LC	albifrons, West Mediterranean/ W Africa (bre)	16,300 - 26,000	210	2006 - 2018	Yes
Royal Tern (*Thalasseus maximus*)	LC	albidorsalis, West Africa (bre)	220,000 - 230,000	2200	2019	Yes
Sandwich Tern (*Thalasseus sandvicensis*)	LC	sandvicensis, Western Europe/West Africa	170,000 - 200,000	1700	2006 - 2018	Yes
Family: PELECANIDAE (Pelicans)						
Great White Pelican (*Pelecanus onocrotalus*)	LC	West Africa	60,000	600	1975 - 2014	Yes
Family: PHALACROCORACIDAE (Cormorants)						
Long-tailed Cormorant (*Microcarbo africanus*)	LC	lucidus, Coastal West Africa	40,000	400	2010 - 2014	No
Great Cormorant (*Phalacrocorax carbo*)	LC	lucidus, Coastal West Africa	40,000	400	2010 - 2014	Yes
Family: PHOENICOPTERIDAE (Flamingos)						
Lesser Flamingo (*Phoeniconaias minor*)	NT	West Africa	25,000 - 30,000	270	2010 - 2018	Yes
Greater Flamingo (*Phoenicopterus roseus*)	LC	West Africa	100,000 - 130,000	1100	2014 - 2018	No

Bird Species	IUCN Status	Regional Flyway Population	Regional Flyway Population Size	1% Threshold (RF population)	Year	Migratory
Family: PODICIPEDIDAE (Grebes)						
Little Grebe (*Tachybaptus ruficollis*)	LC	capensis, Sub-Saharan Africa	100,000 - 1,000,000	10,000	2001	Yes
Family: RALLIDAE (Rails and Swamphens)						
Purple Swamphen (*Porphyrio porphyrio*)	LC	madagascariensis, W Africa	10,000 - 25,000	250	2005	No
Family: RECURVIROSTRIDAE (Avocets)						
Pied Avocet (*Recurvirostra avosetta*)	LC	Western Europe & North-west Africa (bre)	100,000 - 110,000	940	2007 - 2018	Yes
Family: Sandpipers and allies)						
Ruddy Turnstone (*Arenaria interpres*)	NT	interpres, Northern Europe/West Africa	44,000 - 87,000	620	2008 - 2018	Yes
Sanderling (*Calidris alba*)	LC	alba, East Atlantic Europe, West & Southern Africa (win)	200,000	2000	2010 - 2014	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
Red Knot (*Calidris canutus*)	NT	canutus, Northern Siberia/West & Southern Africa	250,000	2500	2010 - 2014	Yes
Curlew Sandpiper (*Calidris ferruginea*)	VU	Western Siberia/West Africa	350,000 - 450,000	4000	2010 - 2014	Yes
Little Stint (*Calidris minuta*)	LC	N Europe/S Europe, North & West Africa	270,000 - 360,000	3000	2010 - 2018	Yes
Ruff (*Calidris pugnax*)	LC	Northern Europe & Western Siberia/West Africa	1,500,000 - 3,100,000	22000	1980 - 2019	Yes
Bar-tailed Godwit (*Limosa lapponica*)	NT	taymyrensis, Western Siberia/West & South-west Africa	500,000	5000	2010 - 2014	Yes
Black-tailed Godwit (*Limosa limosa*)	NT	limosa, Western Europe/NW & West Africa	63,000 - 99,000	790	2015	Yes
Eurasian Curlew (*Numenius arquata*)	NT	arquata, Europe/Europe, North & West Africa	610,000 - 830,000	7600	1990 - 2019	Yes
Whimbrel (*Numenius phaeopus*)	LC	phaeopus, Northern Europe/West Africa	240,000 - 330,000	3100	2010 - 2018	Yes

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

Appendix 4 Non-waterbird species that qualify the Key Biodiversity Areas (KBAs) and Important Bird Areas (IBAs) along the Mauritania coast

Bird Species	IUCN Status	Seasonal Presence	IBA criteria	KBA Qualifier	Migratory Behavior
Banc d'Arguin National Park					
Dunn's Lark (Eremalauda dunni)	LC	Resident	A3	-	No
Desert Sparrow (*Passer simplex*)	LC	Resident	A3	-	No
Bar-tailed Lark (*Ammomanes cinctura*)	LC	Resident	A3	-	No
Desert Lark (*Ammomanes deserti*)	LC	Resident	A3	-	No
Greater Hoopoe-lark (*Alaemon alaudipes*)	LC	Resident	A3	-	No
Nubian Bustard (*Neotis nuba*)	NT	Resident	A1, A3	-	No
Pale Rock Martin (*Ptyonoprogne obsoleta*)	LC	Resident	A3	-	Yes
Pharaoh Eagle-owl (*Bubo ascalaphus*)	LC	Resident	A3	-	No
Trumpeter Finch (*Bucanetes githagineus*)	LC	Resident	A3	-	Yes
White-crowned Wheatear (*Oenanthe leucopyga*)	LC	Resident	A3	-	No
Dakhla area KBA & IBA					
Desert Lark (*Ammomanes deserti*)	LC	Resident	A3	KBA	No
Pale Rock Martin (*Ptyonoprogne obsoleta*)	LC	Resident	A3	KBA	Yes
Egyptian Nightjar (*Caprimulgus aegyptius*)	LC	Breeding	A3	KBA	Yes
Pharaoh Eagle-owl (*Bubo ascalaphus*)	LC	Resident	A3	KBA	No
Bar-tailed Lark (*Ammomanes cinctura*)	LC	Resident	A3	KBA	No
Greater Hoopoe-lark (*Alaemon alaudipes*)	LC	Resident	A3	KBA	No
Crowned Sandgrouse (*Pterocles coronatus*)	LC	Resident	A3	KBA	No
White-crowned Wheatear (*Oenanthe leucopyga)*	LC	Resident	A3	KBA	No
Trumpeter Finch (*Bucanetes githagineus*)	LC	Resident	A3	KBA	Yes
Mourning Wheatear (*Oenanthe lugens*)	LC	Resident	A3	KBA	Yes
Desert Sparrow (*Passer simplex*)	LC	Resident	A3	KBA	No
Spotted Sandgrouse (*Pterocles senegallus*)	LC	Resident	A3	KBA	No
Canary current shelf-break (north) KBA & IBA					
Band-rumped Storm-petrel (*Hydrobates castro*)	LC	Non-breeding	A4ii	KBA	Yes
Cory's Shearwater (*Calonectris borealis*)	LC	Breeding	A4ii	KBA	Yes
European Storm-petrel (*Hydrobates pelagicus*)	LC	Non-breeding	A4ii	KBA	Yes
Sahelian Woodpecker (*Dendropicos elachus*)	LC	Resident	A3	-	No
Black Scrub-robin (*Cercotrichas podobe*)	LC	Resident	A3	-	No
Sudan Golden Sparrow (*Passer luteus*)	LC	Resident	A3	-	No
Cricket Warbler (*Spiloptila clamans*)	LC	Resident	A3	-	No
Diawling National Park					
Arabian Bustard (*Ardeotis arabs*)	NT	Resident	A3	KBA	No
Black Scrub-robin (*Cercotrichas podobe*)	LC	Resident	A3	KBA	No
Chestnut-bellied Starling (*Lamprotornis pulcher*)	LC	Resident	A3	KBA	No
Sudan Golden Sparrow (*Passer luteus*)	LC	Resident	A3	KBA	No

Appendix 5 Mauritania National Red List for Land Mammals (Brito *et al.* 2022)

Species Name	Common Name	Threatened Status	
		IUCN Red List	National Red List
Artiodactyla (Even-toed animals)			
Addax nasomaculatus	Addax	CR	CR
Ammotragus lervia	Aoudad	VU	VU
Damaliscus lunatus	Topi	LC	Regionally Extinct
Eudorcas rufifrons	Red-fronted Gazelle	VU	EN
Gazella dorcas	Dorcas Gazelle	VU	VU
Hippotragus equinus	Roan Antelope	LC	Regionally Extinct
Kobus kob	Kob	LC	Regionally Extinct
Nanger dama	Dama Gazelle	CR	Regionally Extinct
Oryx dammah	Scimitar-horned Oryx	EW	Extinct in the Wild (EW)
Redunca redunca	Reedbuck	LC	Regionally Extinct
Taurotragus derbianus	Lord Derby's Eland	VU	Regionally Extinct
Tragelaphus scriptus	Bushbuck	LC	Regionally Extinct
Giraffa camelopardalis	Giraffe	VU	Extinct in the Wild
Hippopotamus amphibius	Hippopotamus	VU	CR
Phacochoerus africanus	Common Warthog	LC	LC
Carnivora (Carnivores)			
Canis lupaster	African Wolf	LC	LC
Lycaon pictus	African Wild Dog	EN	Regionally Extinct
Vulpes pallida	Pale Fox	LC	LC
Vulpes rueppellil	Ruppel's Fox	LC	LC
Vulpes zerda	Fennec Fox	LC	LC
Acinonyx jubatus	Cheetah	VU	Regionally Extinct
Caracal caracal	Caracal	LC	NT
Felis margarita	Sand Cat	LC	LC
Felis silvestris	African Wild Cat	LC	LC
Leptailurus serval	Serval	LC	VU
Panthera leo	Lion	VU	Regionally Extinct
Panthera pardus	Leopard	VU	CR
Atilax paludinosus	Marsh Mongoose	LC	DD
Herpestes ichneumon	Egyptian Mongoose	LC	LC
Herpestes sanguineus	Common Slender Mongoose	LC	LC
Ichneumia albicauda	White-tailed Mongoose	LC	LC
Crocuta crocuta	Spotted Hyaena	LC	VU
Hyaena hyaena	Striped Hyaena	NT	NT
Aonyx capensis	African Clawless Otter	NT	DD
Ictonyx libyca	Libyan Striped Weasel	LC	LC
Ictonyx striatus	Zorilla	LC	DD
Mellivora capensis	Honey Badger	LC	LC
Civettictis civetta	African Civet	LC	LC
Genetta genetta	Common Genet	LC	LC
Chiroptera (Bats)			
Taphozous nudiventris	Naked-rumped Tomb Bat	LC	DD
Taphozous perforatus	Egyptian Tomb Bat	LC	NT

Species Name	Common Name	Threatened Status	
		IUCN Red List	National Red List
Asellia tridens	Geoffroy's Leaf-nosed Bat	LC	LC
Hipposideros tephrus	-	LC	LC
Mops condylurus	Angolan Mops Bat	LC	DD
Tadarida aegyptiaca	Egyptian Free-tailed Bat	LC	DD
Nycteris gambiensis	-	LC	DD
Nycteris hispida	-	LC	LC
Nycteris macrotis	Large-eared Slit-faced Bat	LC	LC
Nycteris thebaica	Cape Long-eared Bat	LC	DD
Eidolon helvum	Afr Straw-coloured Fruit-bat	NT	LC
Rhinolophus fumigatus	-	LC	DD
Rhinolophus landeri	-	LC	DD
Rhinopoma cystops	Egyptian Mouse-tailed Bat	LC	LC
Rhinopoma hardwickii	Lesser Mouse-tailed Bat	LC	LC
Rhinopoma microphyllum	Greater Mouse-tailed Bat	LC	LC
Eptesicus floweri	-	LC	DD
Nycticeinops schlieffeni	Schlieffen's Bat	LC	LC
Pipistrellus rueppellii	Rüppel's Pipistrelle	LC	LC
Scotophilus leucogaster	White-bellied Yellow Bat	LC	DD
Erinaceomorpha (Hedgehogs)			
Atelerix albiventris	Four-toed Hedgehog	LC	LC
Paraechinus aethiopicus	Desert Hedgehog	LC	LC
Hyracoidea & Lagomorpha Rabbits and allies)			
Procavia capensis	Rock Hyrax	LC	LC
Lepus capensis	Cape Hare	LC	-
Perissodactyla & Proboscidea (Rhino & Elephant)			
Ceratotherium simum	Northern White Rhino	NT	Regionally Extinct
Loxodonta africana	African Savanna Elephant	EN	Regionally Extinct
Primates (Monkeys and Apes)			
Chlorocebus sabaeus	Green Monkey	LC	NT
Erythrocebus patas	Patas Monkey	NT	LC
Papio papio	Guinea Baboon	NT	VU
Galago senegalensis	Northern Lesser Galago	LC	DD
Rodentia (Rodents)			
Felovia vae	Felou Gundi	LC	LC
Jaculus jaculus	Lesser Egyptian Jerboa	LC	LC
Hystrix cristata	Crested Porcupine	LC	LC
Acomys airensis	Western Saharan Spiny Mouse	LC	LC
Arvicanthis niloticus	African Grass Rat	LC	LC
Desmodilliscus braueri	-	LC	LC
Gerbillus amoenus	Pleasant Gerbil	LC	LC
Gerbillus campestris	North African Gerbil	LC	LC
Gerbillus gerbillus	Lesser Egyptian Gerbil	LC	LC
Gerbillus henleyi	Pygmy Gerbil	LC	LO
Gerbillus nancillus	-	DD	LC
Gerbillus nigeriae	-	LC	LC
Gerbillus pyramidum	Greater Egyptian Gerbil	LC	LC

Species Name	Common Name	Threatened Status	
		IUCN Red List	National Red List
Gerbillus tarabuli	Tarabul's Gerbil	LC	LC
Mastomys erythroleucus	Guinea Multimammate Mouse	LC	LC
Mastomys huberti	-	LC	LC
Meriones crassus	Sundevall's Jird	LC	LC
Meriones libycus	Libyan Jird	LC	DD
Mus haussa	-	LC	LC
Mus musculus	House Mouse	-	-
Pachyuromys duprasi	Fat-tailed Gerbil	LC	LC
Psammomys obesus	Fat Sand Rat	LC	LC
Rattus rattus	Norwegian House Rat	-	-
Taterillus arenarius	-	LC	LC
Taterillus gracilis	-	LC	DD
Taterillus pygargus	-	LC	DD
Taterillus tranieri	-	LC	LC
Xerus erythropus	Striped Ground Squirrel	LC	LC
Soricomorpha (Shrews)			
Crocidura cinderella	-	LC	DD
Crocidura fuscomurina	-	LC	DD
Crocidura lusitania	Mauritanian Shrew	LC	LC
Crocidura nanilla	-	LC	DD
Crocidura olivieri	Olivier's Shrew	LC	DD
Crocidura viaria	-	LC	LC
Tubulidentata (Aardvark)			
Orycteropus afer	Aardvark	LC	DD