



Red Sea Wind Energy (RSWE) 500 MW + 150 MW Extension (650MW) Power Plant At the Gulf of Suez

Critical Habitat Assessment



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Red Sea Wind Energy (RSWE) – Critical Habitat Assessment (CHA) – February 2024

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LIST OF ACRONYMS

ATMP	Active Turbine Management Programme
BAP	Biodiversity Action Plan
BOO	Build, Own, Operate
EBRD	European Bank of Reconstruction and Development
CHA	Critical Habitat Assessment
EAAA	Ecologically Appropriate Area of Analysis
ESIA	Environmental and Social Impact Assessment
GN	Guidance Note
IBA	Important Bird Area
IFC	International Finance Corporation
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Areas
MW	Megawatt
NBSAP	National Biodiversity Strategy and Action Plan
NGOs	Non-Governmental Organization
NREA	New and Renewable Energy Authority
PR	Performance Requirements
PS	Performance Standard
RCREEE	Regional Centre for Renewable Energy and Energy Efficiency
RSWE	Red Sea Wind Energy
UNDP	United Nations Development Programme
USA	United States of America
VU	Vulnerable
WDPA	World Database on Protected Areas

1 INTRODUCTION

1.1 The Report

This report is the Critical Habitat Assessment (CHA) for the Red Sea Wind Energy (RSWE) 500MW Project (the GoSII 500MW) and its 150 MW extension (GoSII 150MW), when referenced together as the Project Site – 650 MW Wind Power Project, under development by Red Sea Wind Energy S.A.E. The Project is seeking funding from the European Bank for Reconstruction and Development (EBRD) for this development and will need to align with IFC Performance Standard 6 (PS6) and/or EBRD Performance Requirement 6 (PR6) for Biodiversity Conservation and Sustainable Management of Living Natural Resources.

The CHA aims to identify features that trigger the critical habitat status and priority biodiversity features. This will be applied through the following:

- Identification of Critical Habitat and Priority Biodiversity Features present in the area based on a comprehensive literature review, including the Integrated Biodiversity Assessment Tool (IBAT, 2020).
- Analyse of already available information collected as part of the avian in-flight monitoring assessments that were carried out at the project site during the migration seasons of autumn 2019 and spring 2020.
- Analyse the comprehensive ecological assessments that were carried out at the project site during the spring season of 2020, which was undertaken as part of the Environmental and Social Impact Assessment (ESIA) of the project site.
- In addition, as further avifaunal in-flight assessments were performed for two migration seasons in autumn 2020 and spring 2021, both the CEA and this CHA integrate the results of these assessments to ensure that the most up-to-date and relevant data is included .

The CHA undertaken for the GoSII 500MW project was undertaken in compliance with EBRD's 2014 E&S Policy, specifically PR 6 as well as IFC's 2012 Performance Standard 6 and associated guidance. The GOSII 150MW extension, however, is subject to EBRD's 2019 Environmental and Social Policy. This CHA has been updated to reflect the 2019 Environmental and Social Policy and associated guidance on PR6. The PR6 thresholds for CH were aligned with those of IFC's PS 6 (see EBRD 2023). This CHA also considers developments in undertaking CHA for wind power projects located on migratory bird flyways.

1.2 The Project Site and the Study Area

The Project is located in the Red Sea Governorate of Egypt, around 200 km to the southeast of the capital city of Cairo, see Figure 1. More specifically, the Project is located near the Red Sea shoreline and within the Ras Gharib Local Governmental Unit of the Red Sea Governorate, where the closest residential areas include Ras Gharib city (located 40 km to the southeast) and Zaafarana village (45 km to the north), see Figure 2.

The Project is located within a 1,223 km² area that has been allocated by the Government of Egypt (GoE) to New and Renewable Energy Agency (NREA) for development of wind farms. Within this area, a 284 km² area has been studied as a part a Strategic Environmental and Social Assessment (SESA), (presented in green in Figure 3 below). Within this, a land area of approximately 70 km² (presented in red in Figure 3 below) has been allocated to the Developer by NREA for the development of this Project. Building on the CHA that was undertaken for the Lekela 250 MW Project, it was decided that the study area for this CHA would be focused on the area that has been defined by the presidential decree for NREA for wind farm development, instead of focusing on the entire flyway corridor within Egypt which would eventually lead to a repetition of effort that would produce the same result.

Being located by the western coastline of the Gulf of Suez (GoS), the project site and the general study area is located along the Red Sea/Rift Valley flyway, which is one of the most important migration flyways for migratory soaring birds in the world. Around 1.5 million soaring birds pass through twice a year (Birdlife, 2020). The flyway links the European breeding grounds with the African wintering areas of for a total of 37 migratory soaring birds. Regular migration monitoring along the western coast of the GoS where the project is located has shown that there is a significant difference in the level of use of the area during migration

seasons. Research has shown that this part of the flyway is used by much larger numbers of birds during spring migration in comparison with autumn migration seasons.



Figure 1: Project Site in Relation to the Capital City of Egypt (Consultant, 2019)



Figure 2: Project Site and Closest Villages (Consultant, 2019)



Figure 3: Project Site (Red) as Part of the SESA area (blue) and Presidential Decree Area for Wind Farm Development (black) (Consultant, 2019)

As part of the Environmental and Social Impact Assessment (ESIA), in-flight pre-construction monitoring assessments were undertaken at the project site during the autumn seasons of 2019 and 2020, and the spring seasons of 2020 and 2021. Additionally, biodiversity assessments including a field survey during the spring seasons of 2020 and 2023, and comprehensive literature review were undertaken. Operational monitoring will be carried out, including shutdown on demand (SDOD) and fatality monitoring as part of the Active Turbine Management Plant (ATMP) that is already being implemented in the whole region.



Figure 4. Main routes used by migratory soaring birds as part of the Red Sea/Rift Valley Flyway (BirdLife, 2020)

1.3 Lenders Standards

1.3.1 IFC Performance Standard 6 – PS6

IFC's Performance Standard 6 (PS6), recognises the conservation of biodiversity as fundamental to sustainable development, while linking it to the Convention of Biological Diversity (CBD). PS6 requires assessing the significance of project impacts on all level of biodiversity as an integral part of the Social and Environmental Assessment process. It looks into habitats as the main feature that should be assessed for project impacts. PS6 outlines that Critical Habitat as a subset of both natural and modified habitat that deserves particular attention since it includes areas with high biodiversity value, including habitat required for the survival of species of high conservation value including critically endangered and endangered species, endemic and restricted-range species, migratory species, congregatory species and others.

In accordance with IFC PS6, habitats are divided into modified habitats and natural habitats as well as and critical habitat. Critical Habitats (CH) are a subset of either modified or natural habitats supporting high biodiversity value, including:

- Habitat of significant importance to critically endangered and/or endangered species (International Union for Conservation of Nature and Natural Resources (IUCN) Red List)
- Habitat of significant importance to endemic and/or restricted-range species
- Habitat supporting globally significant concentrations of migratory species and/or congregatory species
- Highly threatened and/or unique ecosystems
- Areas associated with key evolutionary processes

Since habitat destruction is recognised as a major threat to the maintenance of biodiversity and to assess likely significance of impacts, IFC PS6 requires the following depending on habitat status:

Modified Habitat: exercise care to minimise any conversion or degradation of such habitat, depending on scale of project, identify opportunities to enhance habitat and protect and conserve biodiversity as part of operations. IFC GN6 defines Modified Habitats as *'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'*.

Natural Habitat: developer will not significantly convert or degrade such habitat unless no financial/technical feasible alternatives exist, or overall benefits outweigh cost (including those to biodiversity), and conversion or degradation is suitably mitigated. Mitigation must achieve no net loss of biodiversity where feasible; offset losses through creation of ecologically comparable area that is managed for biodiversity, compensation of direct users of biodiversity. IFC GN6 defines Natural Habitats as *'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'*.

Critical Habitat: in areas of CH, the Developer will not implement project activities unless there are no measurable adverse impacts on the ability of the Critical Habitat to support established populations of species described or on the functions of the critical habitat; no reduction in population of a recognised critically endangered or endangered species and lesser impacts mitigated as per natural habitats. A Project must achieve net gains for the biodiversity value for which the Critical Habitat was designated.

1.3.2 EBRD Performance Requirement 6 – PR6

The objectives of PR6 are to protect and conserve biodiversity; maintain core ecological functions of ecosystem services and biodiversity they support; adapt the mitigation hierarchy approach; and promote the sustainable management of living natural resources through the adoption of good international practices.

PR6 (EBRD 2019) identifies Priority Biodiversity Features (PBFs), which include: (i) threatened habitats; (ii) vulnerable species; (iii) significant biodiversity features identified by a broad set of stakeholders or governments; and (iv) ecological structure and functions needed to maintain the viability of priority biodiversity features. Areas with Priority Biodiversity Features for EBRD generally equate to the more important areas of Natural Habitat within the IFC PS6 classification (IFC 2012). Projects affecting PBF are required to demonstrate no net loss for such features and preferably a net gain.

The most sensitive biodiversity features are defined as critical habitat (EBRD 2019); which comprise one of the following: (i) highly threatened or unique ecosystems; (ii) habitats of significant importance to endangered or critically endangered species; (iii) habitats of significant importance to endemic or geographically restricted species; (iv) habitats supporting globally significant migratory or congregatory species; or (v) areas associated with key evolutionary processes. Projects affecting critical habitat are required to demonstrate a net gain for the critical habitat affected.

2 APPROACH

The CHA comprises several steps in order to ensure the process is robust¹:

- Initial Screening – which involves making stakeholder consultation and/or an initial published and grey literature *e.g.* Lekela WF CHA (TBC, 2018), Amunet WF CHA (EcoConsult 2022), Infinity 200MW WF CHA, the previous RSWE 500 MW CHA; Integrated Biodiversity Assessment Tool (IBAT, 2020); IUCN Red List of Threatened Species; IFC PS6 GN6 (IFC, 2012 and update 2019); EBRD PR6; Biodiversity Conservation and Sustainable Management of Living Natural Resources Guidance Note (EBRD 2022) and; World Database of Key Biodiversity Areas.
- Establishment of baseline which includes field data collection and verification of available information *e.g.* Habitat Survey; Bird Survey; Bat Survey; Invertebrate Survey; Reptile Survey
- Critical habitat determination:
 - a) Identification of appropriate scale for assessment
 - b) Determination of Ecologically Appropriate Area of Analysis.
 - c) Assessment against Critical Habitat criteria.

2.1 Literature review and stakeholder consultation

This assessment is based on existing literature in addition to global and regional datasets, including Integrated Biodiversity Assessment Tool (IBAT, 2020). All species classified as Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or Data Deficient in the IUCN Red List was screened, as well as all species mapped by IUCN which could be considered restricted-range. Additionally, up-to-date ecological assessments, including avifaunal in-flight monitoring, flora survey and others, that are included in the ESIA of the Project Site were used in the analysis. Other sources of data included the following:

- Environmental and Social Impact Assessments of all surrounding Wind Power Projects,
- Critical Habitat Assessments from surrounding Wind Power Projects,
- Publicly available satellite telemetry data (Feltrup-Azafzaf et al. 2016; Dagys & Zydalis 2018; Nagy et al. 2018) and published literature (Buechley et al. 2018, Gauld et al. 2022),
- BirdLife International's Important Bird Area Data Zone website
- Protected Planet's Word Database on Protected Areas (WDPA)

This assessment was conducted using the best recent and available information at the time of its production. In an area where regular avifaunal monitoring is being carried out, a better understanding of the level of use, species present and seasonal fluctuations is becoming increasingly understood every season. It is believed that as more research is planned for the future, at the Project Site and in the adjacent projects, a better understanding of the area as a whole will be obtained. These results could affect the results of this assessment, however the location of the Project along a major migration flyway and near to a IBA which is a significant stopover or congregatory site, will not change the importance of the area for migratory soaring birds specifically nor will it change the need for detailed mitigation measures and monitoring plans to ensure the conservation of the species that use the flyway, the Gulf of Suez and the project site.

¹ By the time this CHA has been reviewed the Migratory Soaring Birds Tool (Birdlife International) is not available,

2.2 Scale of Assessment

A Critical Habitat Assessment is usually carried out at a landscape scale, using ecologically appropriate areas of analysis (EAAA) for determining the presence or absence of Critical Habitat qualifying features. They are identified at a landscape scale, considering large-scale ecological processes where appropriate, and can therefore be much larger than the project concession or lease area itself. The principles of determination of EAAA only apply to terrestrial areas and cannot be applied to airspace above a site unless it is associated directly with the utilization of a terrestrial habitat.

The Critical Habitat Assessment (CHA) methodology described in IFC's Guidance Note 6 heavily draws on the IUCN's Key Biodiversity Area (KBA) Standard, which focuses on geographic areas of land and water that are amenable to site-based conservation. It is for this reason that, for birds, the CHA methodology can be readily applied to terrestrial and water areas, such as stopover points and breeding grounds where concentrations of birds are dependent on the conservation of the habitat at these areas. Considering the airspace in a CHA is more challenging. Birds utilizing important terrestrial areas will naturally also use the airspace above and around it. Under certain circumstances, this airspace should be considered as part of the habitat and part of the EAAA of a CHA.

Using this approach, a CHA would not be conducted with respect to the airspace where there is no associated important terrestrial area used by birds (or concentrations of them) and no intersection with the project footprint, which will often be the case for long-distance migrants using high altitude airspace between continents or countries. In this scenario, it would be difficult or impossible to delineate the airspace EAAA at this large scale, recalling that "critical habitat boundaries should be equivalent in scale to areas mapped for practical site-based conservation management activities" (PS6 GN59). Without an EAAA, the Critical Habitats thresholds cannot be applied. It is also important to note that the location of a project within a recognised bird migratory corridor (Flyway) does not automatically generate high collision risk, not trigger CH determination, because most bird migration activity occurs in a diffuse "broad front" pattern, and recognised bird migration corridors are as ubiquitous as bird migration activity itself, and collectively covers most terrestrial land areas. The migratory/congregatory species criterion described in the CHA sections of IFC PS6 and EBRD PR6 is intended to trigger CH determination only in areas that host continentally significant concentrations of migratory activity. In many cases, these sites have already been designated as IBAs based on the KBA criteria and thresholds¹.

Taking this into consideration, the study area scale of this assessment is based on the flyway of the birds that intersect with the Project area (e.g. the 238 km² consented area identified in Section 1.2) and results of the site-specific surveys will be discussed to demonstrate the relationship between the flyway (e.g. airspace) and the terrestrial habitats present within the Project area. Based on desk and field studies from the ESIA, the projects' area of influence for all but MSBs is unlikely to extend far beyond the Project concession, The AoI was defined as the concession and a 1 km area all around it (Figure 5).

Defining an area of assessment for migratory soaring birds that aligns with guidance in PR6/PS6 is challenging. For MSBs we thus assessed the potential presence of Critical Habitat at two scales:

1. *Within the entire flyway corridor within Egypt.* This is an arbitrary section of the whole flyway, but one that is sufficiently extensive to be precautionary and,
2. *Within the AoI* where a more detailed assessment was possible, given data availability from baseline surveys.

This approach is consistent with other wind energy projects located within the same Flyway within Egypt, e.g. Amunet Project and Lekela North Ras Gharib 250MW Project (TBC, 2018).

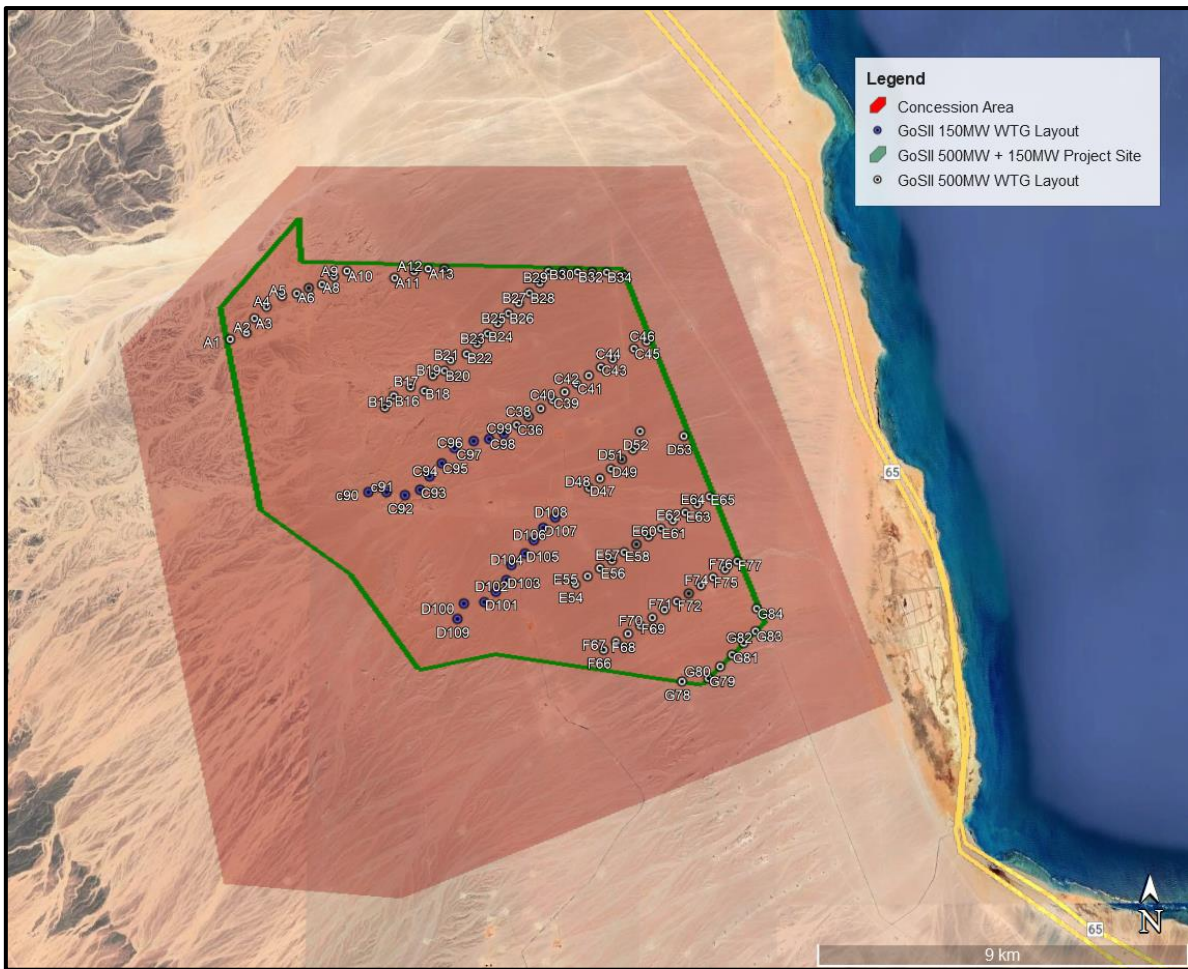


Figure 5 GoSII 500MW + 150MW Project Site amid the Concession Area defined for the CHA

2.3 Determination of Ecologically Appropriate Area of Analysis

IFC PS6 and EBRD PR6 requires identification of Ecologically Appropriate Area of Analysis (EAAA) to determine the presence of critical habitat for each species with regular occurrence in the Project’s Area of Influence (AoI), or ecosystem, covered by IFC Criteria 1-4 and EBRD Criteria 2 – Priority Species and their Habitats. The boundaries of an EAAA are determined by taking into account the distribution of species or ecosystems (within and sometimes extending beyond the project’s AoI and the ecological patterns, processes, features, and functions that are necessary for maintaining them. This approach ensures that all important biodiversity within the project footprint and linked surrounding habitats are taken into consideration.

Criteria used to define CH under EBRD PR 6 are closely aligned to the IFC guidance and these require that the study area be defined by comparable parameters to the above. In essence any CH assessment must encompass all direct and indirect impacts within a broad landscape unit which is large enough to include features and functions relevant to the species being considered.

2.4 Robustness of this Assessment

This assessment was conducted using the best available information. However, it is acknowledged that new information may change the conservation status of a species and therefore change the assessment.

Baseline surveys were mostly focused on diurnal bird species. Since many reptile and mammal species living in desert are nocturnal and small species such as arachnids and insects were not the focus of surveys, their presence might not have been recorded during surveys. This is unlikely to affect the assessment since there is currently no indication of any threatened or restricted-range species in such groups likely to occur in the area. However, a comprehensive biodiversity assessment has been done as part of the ESIA study during spring 2022 and autumn 2022, based on a literature review and site-specific surveys.

While further research may affect individual species currently identified as reaching Critical Habitat thresholds, the overall assessment of importance of the area is unlikely to change. The location of the project within the IBA triggers Critical Habitat values, and thus the need for well-considered mitigation plans and measures.

3 ASSESSMENT AGAINST EBRD (PR6) AND IFC (PS6) CRITERIA FOR CRITICAL HABITAT

The CH determination refers to the evaluation of the area in question with respect to each of the five CH criteria defined in IFC PS 6 GN and the five defined in EBRD PR 6 and its GN (EBRD 2023). Each criterion is described in detail in paragraphs GN70–GN83 of IFC PS 6 GN and Table 3 of EBRD PR 6 GN as summarized in below. Definitions and quantitative thresholds for each criterion of the assessment in both guidance notes follow those set out in the IFC guidance as this is considered the most appropriate source by both IFC and EBRD at the time of writing:

Table 1 Critical Habitat Criteria as defined by IFC PS 6

Critical Habitat Criteria as defined by IFC PS 6	Criterion
Critically Endangered (CR) and/or Endangered (EN) species	1
Endemic or restricted-range species	2
Migratory or congregatory species	3
Highly threatened and/or unique ecosystems	4
Key evolutionary processes	5

Table 2 Critical Habitat Criteria as defined by EBRD PR 6

Critical Habitat Criteria as defined by EBRD PR 6	Criterion
Highly threatened and/or unique ecosystems	i
Habitats of significant importance to endangered or Critically Endangered species	li
Habitats of significant importance to endemic or range restricted species	lii
Habitats supporting globally significant concentrations of migratory or congregatory species	iv
Areas associated with key evolutionary processes	v

EBRD’s criteria for critical habitat, and priority biodiversity features, are include in Table 3 in its 2023 Guidance note, and presented below.

Table 3. PR6 Criteria for Priority Biodiversity Features and Critical Habitat

Criterion	Priority Biodiversity Feature	Critical Habitat
1. Priority ecosystems		
<i>Threatened ecosystems</i>	(PR6 para. 12-i)	(PR6 para. 14-i)
(a) Habitats listed in Annex 1 of EU Habitats Directive (EU members only) or Resolution 4 of Bern Convention (signatory nations only)	(a) EAAA is habitat type listed in Annex 1 of EU Habitats Directive or Resolution 4 of Bern Convention	(a) EAAA is habitat type listed in Annex 1 of EU Habitats Directive marked as “priority habitat type”
(b) IUCN Red-List EN or CR ecosystems	(b) EAAA** < 5% of the global extent of an <i>ecosystem</i> type with IUCN status of CR or EN	(b) EAAA ≥5% of global extent of an ecosystem type with IUCN status of CR or EN
		(c) EAAA is ecosystem determined to be of high priority for conservation by national systematic conservation planning
2. Priority Species and their Habitats		

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<p><i>Threatened species</i></p> <p>(a) Species and their habitats listed in EU Habitats Directive and Birds Directive (EU members only) or Bern Convention (signatory nations only)</p> <p>(b) IUCN Red List EN or CR species</p> <p>(c) IUCN Red List VU species</p> <p>(d) Nationally or regionally (e.g., Europe) listed EN or CR species</p>	<p>(PR6 para. 12-ii)</p> <p>(a) EAAA for species and their habitats listed in Annex II of Habitats Directive, Annex I of Birds Directive, or Resolution 6 of Bern Convention</p> <p>(b) EAAA supports < 0.5% of global population OR < 5 reproductive units of a CR or EN species.</p> <p>(c) EAAA supports VU species</p> <p>(d) EAAA for regularly occurring nationally or regionally listed EN or CR species</p>	<p>(PR6 para. 14-ii)</p> <p>(a) EAAA for species and their habitats listed in Annex IV of the Habitats Directive (See EU restrictions)</p> <p>(b) EAAA supports $\geq 0.5\%$ of the global population AND ≥ 5 reproductive units of a CR or EN species</p> <p>(c) EAAA supports globally significant population of VU species necessary to prevent a change of IUCN Red List status to EN or CR, and satisfies threshold (b)</p> <p>(d) EAAA for important concentrations of a nationally or regionally listed EN or CR species</p>
<p><i>Range-restricted species</i></p>	<p>(PR6 para. 12-ii)</p> <p>(a) EAAA for regularly occurring range-restricted species</p>	<p>(PR6 para. 14-iii)</p> <p>(a) EAAA regularly holds $\geq 10\%$ of global population AND ≥ 10 reproductive units of the species***</p>
<p><i>Migratory and congregatory species</i></p>	<p>(PR6 para. 12-ii)</p> <p>(a) EAAA identified per Birds Directive or recognized national or international process as important for migratory birds (esp. wetlands)</p>	<p>(PR6 para. 14-iv)</p> <p>(a) EAAA sustains, on a cyclical or otherwise regular basis, ≥ 1 percent of the global population at any point of the species' lifecycle</p> <p>(b) EAAA predictably supports ≥ 10 percent of global population during periods of environmental stress</p>

3.1 Criterion I (PR6) and Criterion 4(PS6) – Highly threatened ecosystems

Highly threatened and/or unique ecosystems are defined as Critical Habitat in EBRD PR6 GN Table 3. PR6 Criteria for Priority Biodiversity Features and Critical Habitat (EBRD 2023) if the EAAA contains $\geq 5\%$ of global extent of an ecosystem type with IUCN status of CR or EN or the EAAA is ecosystem determined to be of high priority for conservation by national systematic conservation planning.

All ecosystems known from the main study area were screened against the EBRD definition of highly threatened and unique ecosystems, and the Red List of Threatened Ecosystems criteria, considering the entire extent of an ecosystem, together with areas in the wider landscape that are needed to maintain that ecosystem in a viable condition.

IFC prioritizes information from the IUCN is developing a Red List of Ecosystems to determine Critical Habitat for criterion 4, This follows an approach similar to the Red List for Threatened Species and categorizes ecosystems using similar ratings (e.g. for threatened ecosystems – Vulnerable, Endangered, Critically Endangered). Where formal IUCN ecosystem assessments have not been performed, assessments using systematic methods at the national/regional level, carried out by governmental bodies, recognized academic institutions and/or other relevant qualified organizations (including internationally recognized NGOs) may be used.

The thresholds for Criterion 4 are the following (GN80):

- Areas representing $\geq 5\%$ of the global extent of an ecosystem type meeting the criteria for IUCN status of CR or EN.

Other areas not yet assessed by IUCN but determined to be of high priority for conservation by regional or national systematic conservation planning.

Assessment. The Project area thus does not qualify as within Critical Habitat under this Criterion.

- Justification:** According to Olson et al (2001), the project area is located in the Desert and Xeric Scrublands Biome and more specifically in the Ecoregion of Red Sea Coastal Desert, see Figure 5. Applying the classification elaborated by Harhash et al. (2015) to the habitats found in the project area during site visits and field surveys the whole project area must be attributed to the main habitat system “Desert”. The vast majority of the project area can be classified as “Hamada Desert” (Sub-System: “Plain Land”) that is crossed by “Valleys and Canyons” (i.e. wadis) which belong to the Sub-System “Low Land”, which is characterised by very scattered vegetation cover that is limited sparsely to wadis, see Figure 6.

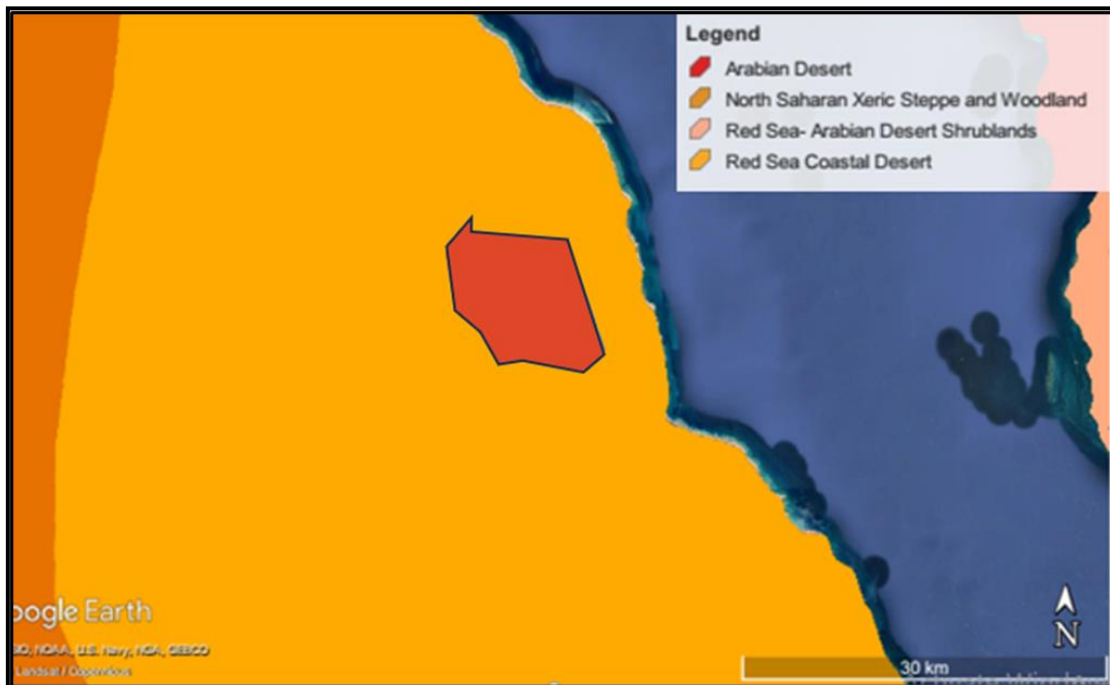


Figure 6: Location of Project in reference to Ecoregions of the world (TEOW) (Olson et al, 2001)



Figure 7. General view of the project site during spring 2020 from the western side looking east (ECOConsult, 2020)

Table 4. Summary of assessment of habitats in the project site against IFC criterion 4 and EBRD criterion i

Habitat – Hammada Desert	
Definition	Assessment
Risk of significantly decreasing in area or quality	the industrial development in the region might decrease the extent and the quality of some shrub patches, but, given the wide distribution of this vegetation type, it is not currently considered to be at significant risk
Small spatial extent	The habitat is widespread
Containing unique assemblages of species including assemblages or concentrations of biome-restricted species (fine scale)	The vegetation type does not support unique assemblages or concentration of biome-restricted species
Red List of Threatened Ecosystems	Assessment
Reduction in geographic distribution	The ecosystem is expansive and is not believed to be facing any reduction in distribution
Restricted geographic distribution	The habitat is widespread
Environmental degradation	Wind farm development might lead to habitat degradation but this will be limited to individual projects elements and is not believed to lead to large-scale degradation of the ecosystem
Disruption of biotic processes or interactions	No evidence
Quantitative analysis that estimates the probability of ecosystem collapse	No evidence

- **Assessment.** The Project area thus does not qualify as within Critical Habitat under this Criterion.

3.2 PR6 Criterion ii, iii and iv, Priority species and their habitats and PS6 Criteria 1, 2, and 3

Quantitative data for the list of candidate species in the study areas was screened against PR6 thresholds in PR6's GN (EBRD 2023) – Table 3 above. The screening is based on the proportion of a species' population in a given area. Assessment also considered any subspecies and populations that have been individually assessed on the IUCN Red List.

Although identification of Critical Habitat is largely based on global conservation priorities, Criteria ii, iii and iv also considers the presence of nationally-important populations of Critically Endangered and Endangered species.

On a flyway used by migratory Critically Endangered or Endangered species this indicator is interpreted to refer to stop-over sites with particular geographic features, or other bottlenecks. For this analysis the location of migratory bottlenecks has been informed by the IBA dataset produced by BirdLife. IBAs were identified in a national directory in 1999 (Baha El Din 1999) and updated in an Africa-wide compendium (Fishpool & Evans 2001). We used the most up-to-date data on IBAs, available from IBAT.

For the PS6, species threatened with global extinction and listed as CR and EN on the IUCN Red List of Threatened Species are considered as part of Criterion 1 (PS6 GN70).

Thresholds for IFC **Criterion 1** (PS6 GN72) are:

- a) Areas that support globally important concentrations of an IUCN Red-listed EN or CR species ($\geq 0.5\%$ of the global population AND ≥ 5 reproductive units GN16 of a CR or EN species).
- b) Areas that support globally important concentrations of an IUCN Red-listed Vulnerable (VU) species, the loss of which would result in the change of the IUCN Red List status to EN or CR and meet the thresholds in GN72(a).
- c) As appropriate, areas containing important concentrations of a nationally or regionally listed EN or CR species.

This is the same as EBRD's threshold for criterion ii.

By the way, the term endemic is defined as restricted range. Restricted range refers to a limited extent of occurrence-EOO (GN74). For terrestrial vertebrates and plants, restricted-range species are defined as those species that have an EOO less than 50,000 square kilometers (km²).

The threshold for **Criterion 2** (PS6 GN75) is:

- a) Areas that regularly hold $\geq 10\%$ of the global population size AND ≥ 10 reproductive units of a species (PS6 GN75).

This is the same as EBRD's threshold for criterion iii.

For potential endemic and restricted-range species, ranges and global population estimates were extracted from the IUCN Red List and the proportion of the range within the EAAA used to estimate the % of the global population potentially present. This value was then assessed against the Criterion 2 threshold.

Finally, Migratory species are defined as any species of which a significant proportion of its members cyclically and predictably move from one geographical area to another (including within the same ecosystem) (GN76). MSBs fall within this category.

Congregatory species are defined as species whose individuals gather in large groups on a cyclical or otherwise regular basis and/or predictable basis. For this assessment the most relevant example given is 'Species that utilize a bottleneck site where significant numbers of individuals of a species occur in a concentrated period of time (for example, for migration)' (GN77).

The thresholds for **Criterion 3** (PS6 GN78) are:

- a) Areas known to sustain, on a cyclical or otherwise regular basis, ≥ 1 percent of the global population of a migratory or congregatory species at any point of the species' lifecycle.
- b) Areas that predictably support ≥ 10 percent of the global population of a species during periods of environmental stress.

This the same as EBRD's threshold for criterion iv.

3.2.1 PR6 Criterion ii – Threatened species/PS6 Criterion 1 – Critically Endangered and Endangered Species

No species meet the threshold for Criterion 2 (PR6) & 1 (PS6). Data collected indicate that globally significant numbers of Egyptian Vulture *Neophron percnopterus* and Steppe Eagle *Aquila nipalensis* fly over the study area each year, specifically during the spring migration season. However, no bottlenecks, or stop-over locations are known from the study area since all records obtained showed that the species is recorded on passage without any records of congregation or direct use of the project site and/or its surroundings.

- **Assessment:** *The project does not qualify as within Critical Habitat under Criterion 2i/1.*
- **Justification:** No species meets the thresholds. For one species, Steppe Eagle (EN) baseline bird monitoring studies recorded globally important numbers (>0.5%) in the spring 2022, whilst it does not migrate in autumn. However, as Steppe Eagle occurs exclusively as a migrant, with each individual only present within the EAAA for very short time periods (typically less than an hour) as it transits through the airspace; this species is more appropriately assessed under criterion 3.

3.2.2 PR6 Criterion iii Range-restricted species / PS6 Criterion 2 – Endemic and Restricted-range Species

- **Assessment:** *The Project does not qualify as within Critical Habitat under Criterion 2ii/2.*
- **Justification:** No species meets the threshold for Criterion iii and 2.
 - **PR6:** EAAA regularly holds $\geq 10\%$ of global population AND ≥ 10 reproductive units of the species.
 - **PS6:** An endemic species is defined as one that has ≥ 95 percent of its global range inside the country or region of analysis.
 - **PS6:** A restricted-range species for terrestrial vertebrates is defined if the extent of occurrence is 50,000 km² or less.

3.2.3 Criterion PR6-iv /PS6 3- Migratory and congregatory species

Migratory species are defined as any species of which a significant proportion of its members cyclically and predictably move from one geographical area to another (including within the same ecosystem)-GN76. MSBs fall within this category.

Congregatory species are defined as species whose individuals gather in large groups on a cyclical or otherwise regular basis and/or predictable basis.

Sites must be of critical importance for these species and airspace is not considered to be of critical importance unless it is at bottleneck sites such as due to the presence of landscape features which ‘funnel’ flocks of soaring birds, like the sea crossings (e.g. the Bosphorus and the Strait of Gibraltar). Sites are also considered important under this criterion if large aggregations of birds are present for extended periods of time during parts of their life cycle, like the stopover sites for roosting and feeding. This is opposed to resting sites where birds will settle for shorter periods of time when conditions are unfavourable for migration, from which they will leave when conditions become more favourable. For airspace to be of importance and thus triggering the criterion for determination of CH there must be a conceptual linkage between the terrestrial or aquatic habitats present and the airspace. Following this approach, a CHA would not be conducted with respect to the airspace where there is no associated important terrestrial area. Resting areas are not of regular significance to MSBs and would not be subject to site-based conservation management activities

which would result in measurable conservation benefits. The survey data clearly shows that there is an absence of a linkage between the airspace above, and terrestrial habitats of, the Project site and as such is impossible to delineate the airspace EAAA, and without an EAAA, Critical Habitat thresholds cannot be applied. The migratory/congregatory species criterion (CHA section of IFC PS6 and EBRD PR6) is intended to trigger a CH only in areas that host continentally significant concentrations of migration activity. In many cases, these sites have already been designated as Important Bird Areas (IBAs) based on the KBA criteria and thresholds.

Avifaunal assessments at the project site level and the West Coast of the Gulf of Suez have focused on assessment of in-flight monitoring for migratory soaring birds. This has been the case due to the fact that the area is located along the Red Sea/Rift Valley flyway and it has been well documented that it is a major passage for migratory soaring birds. Based on this, the project site and its immediate surroundings are not believed to trigger criterion iv (PR6) & and 3 (PS6) for non-MSBs.

Based on the data available from the assessments at the project site and the literature available, ten MSB species exceeded the thresholds for Critical Habitat under Criteria iv (PR6) & 3-(PS6), see Table 5.

1. **Assessment:** Based on the available evidence thresholds for Critical Habitat are exceeded for ten MSBs species.

Table 5: List of species triggering the threshold of Criterion iv (PR6) & 3 – (PS6)

Species	IUCN Red List Status
Black Stork <i>Ciconia nigra</i>	LC
White Stork <i>Ciconia ciconia</i>	LC
Great White Pelican <i>Pelecanus onocrotalus</i>	LC
European Honey-buzzard <i>Pernis apivorus</i>	LC
Egyptian Vulture <i>Neophron percnopterus</i>	EN
Lesser Spotted Eagle <i>Clanga pomarina</i>	LC
Greater Spotted Eagle <i>Clanga clanga</i>	VU
Steppe Eagle <i>Aquila nipalensis</i>	EN
Levant Sparrowhawk <i>Accipiter brevipes</i>	LC
Eurasian Buzzard <i>Buteo buteo</i>	LC

- **Justification:** Other than MSBs, no migratory or congregatory species were found likely to meet PR 6 and PS6 thresholds. As stated in Section 3.1.2, MSBs were assessed at the flyway scale within Egypt and in more detail within the project site.

The vast majority of the birds were recorded passing through. It is well documented that the major bottleneck is roughly 22 km south from the project site at Gebel El Zeit IBA, which is identified as a bottleneck for MSBs. Still, taking into consideration the large number of birds of these ten species, the project site is considered of global importance for these species and therefore it is critical to ensure suitable mitigation and monitoring measures are adopted during the project development operational phases. The percentage of the global population was based on the lowest estimate of the global population (most bird population estimates have substantial confidence margins), see Serckx et al. (2018). For some species this may significantly underestimate the global population. This is the case for Levant Sparrowhawk, for which the numbers of individuals observed migrating through the Gebel El Zeit IBA exceeds the lowest published estimate of the global population (Jobson et al. 2021, El-Gebaly & Al-Hassani 2017). In such a case, the assessment of the species made here is likely to need modification when an updated estimate of the global population is reviewed.

Black Stork <i>Ciconia nigra</i> – Least Concern (LC)

Justification for triggering threshold of criterion

Most populations of this species are fully migratory and travel on a narrow front along well-defined routes. On migration the species may travel singly or in small of up to 100 individuals, and on its wintering grounds it is normally observed singly or in small groups of less than 30 individuals. The global population is estimated at 24,000-44,000 individuals (IUCN, 2017). The overall population trend is unknown. The species is threatened by habitat degradation across its distribution range. The species is also occasionally killed by collisions with powerlines and overhead cables, and hunting in southern Europe and tropical Asia (especially during migration) have caused population declines.

More than 1% of the global population use the flyway passing over the project site, with counts above this threshold coming from seven surveys (Ecoda 2013; Environics 2016a, 2016b; RCREEE 2018, RCREEE and ECOConsult 2020). The highest count was from the project site of 2,156 birds, about 9.0% of the global population, during the spring of 2020 (RCREEE and ECOConsult 2020). Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

White Stork <i>Ciconia ciconia</i> – Least Concern (LC)

Justification for triggering threshold of criterion

The White Stork is a Palearctic migrant that travels with the assistance of thermal updrafts, the occurrence of which restricts the migratory routes the species can take. The global population is estimated at 700,000-704,000 individuals. The overall population trend is increasing, although some populations are decreasing or stable. The species is threatened by habitat alteration across its distribution range. During the winter in Africa, there may be high rates of mortality due to changes in feeding conditions owing to drought, desertification and the control of locust populations by insecticides. On migration and in its winter quarters, the species might also be hunted for food and sport (BirdLife International 2016c).

More than 1% of the global population use the flyway passing over the project site, with counts above this threshold coming from nine surveys (Ecoda 2013; Environics 2016a, 2017b; RCREEE 2018, RCREEE and ECOConsult 2020). The maximum count is of 154,545, approximately 22.1% of the global population, in spring 2020 (RCREEE and ECOConsult 2020). Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

Great White Pelican <i>Pelecanus onocrotalus</i> – Least Concern (LC)

Justification for triggering threshold of criterion

Northern populations of this species are fully migratory (del Hoyo et al. 1992) and travel via important stop-over sites (Nelson 2005). Other populations are sedentary, dispersive (del Hoyo et al. 1992, Nelson 2005) or nomadic, flying over land to seek suitable feeding locations (Nelson 2005).

The global population is estimated to 265,000-295,000 individuals. The overall population trend is uncertain, with some populations decreasing, while others are increasing, stable or have unknown trends. The species is threatened by habitat destruction, persecution and hunting for sport. It also suffers mortality due to collisions with electric powerlines during migration, dispersal or on its wintering grounds and is often found drowned in fishing nets. In Egypt, adults of this species are hunted and sold for food at markets (BirdLife International 2016).

More than 1% of the global population use the flyway passing over the project site, with counts above this threshold coming from four survey surveys (Ecoda 2013; RCREEE 2018, RCREEE and ECOConsult 2020). The highest count in the vicinity of the Project was of 6,242 birds, over 2% of the global population, in the ACWA area in spring 2016 (RCREEE 2018). Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

European Honey-buzzard <i>Pernis apivorus</i> – Least Concern (LC)
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Justification for triggering threshold of criterion

The European Honey Buzzard has an extremely large range, from Europe to Russia, and South Africa to the south. This is a migratory species, wintering in tropical Africa. It leaves its breeding grounds in August and September, returning between April and June. Birds are mostly solitary except on migration, when they flock throughout, gathering in large numbers at preferred crossing points as well as roosting socially. They fly chiefly by soaring, although are able to cross wide stretches of water with flapping flight.

The global population is estimated to 280,000-420,000 individuals. The overall population trend is decreasing. The species is threatened by deforestation, forest conversion and shooting. Human disturbance is also a threat. It is very highly vulnerable to the effects of potential wind energy development (BirdLife International 2016b).

More than 1% of the global population use the flyway passing over the project site (Ecoda 2013; Environics 2016b; RCREEE 2018, RCREEE and ECOConsult 2020). The highest count in was of 21,626 birds, approximately 7.7% of the global population, in spring 2020 at the project site (RCREEE and ECOConsult, 2020). Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

Egyptian Vulture <i>Neophron percnopterus</i> – Endangered (EN)

Justification for triggering threshold of criterion

Resident populations of Egyptian Vulture occur in Ethiopia and East Africa, Arabia, the Indian Subcontinent and Saharan and Sahelian parts of Africa. Populations of the species that breed in its northernmost range conduct long-distance intercontinental migrations, flying over land and often utilising the narrowest part of the Strait of Gibraltar or the Bosphorus and Dardanelles on their way to Africa. These birds winter within the resident range, and in addition throughout the Sahel region of Africa.

The species is declining in virtually all parts of its range, apparently for a number of different reasons. In India, it has declined by > 90% in the last decade; European populations have declined by 50-79% over the last three generations. Western, eastern and southern African populations also appear to have declined significantly, as do Arabian populations. The population is undergoing rapid decline due to disturbance, direct and indirect poisoning, and electrocution by powerlines and collisions with wind turbines, reduced food availability and habitat change.

In Europe, the breeding population is estimated to number 3,000-4,700 breeding pairs, equating to 6,000-9,400 mature individuals (BirdLife International 2015). Europe forms 25-49% of the global range, so a very preliminary estimate of the global population size is 18,000-57,000 individuals, roughly equivalent to 12,000-38,000 mature individuals, although further validation of this estimate is needed.

More than 1% of the global population use the flyway passing over the project site (RCREEE and ECOConsult 2020). The only count that exceeded the threshold was of 395 individuals at the project site in spring 2020 (RCREEE and ECOConsult 2020) approximately 2.2% of the global population. Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

Lesser Spotted Eagle <i>Clanga pomarina</i> – Least Concern (LC)
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Justification for triggering threshold of criterion

Birds breeding in India are resident, but otherwise this is a migratory species, migrants leaving their breeding grounds between August and November, and returning in March and April. It relies heavily on soaring flight

using thermals, and thus avoids large bodies of water. Birds are generally observed singly or in pairs, but will congregate at plentiful food sources, and migrate in flocks.

The main threats posed to this species are through habitat loss (notably the draining of wet forests and meadows, and on-going deforestation) and hunting. The latter is especially prevalent on migration, with possibly thousands of birds shot annually in Syria and Lebanon. Forest management activities are reported to have a negative effect on the species. It is also very highly vulnerable to the impacts of potential wind energy developments.

The European population is estimated at 16,400-22,100 pairs, which equates to 32,800-44,200 mature individuals. Europe forms approximately 73% of the global range, so a very preliminary estimate of the global population size is 44,900-60,500 mature individuals, although further validation of this estimate is needed. It is placed in the band 40,000 to 60,000 mature individuals. A survey in 2014 counted 47,594 individuals in southern Turkey. Whilst c.58,000 individuals were recorded in 2008 during migration counts over the Bosphorus. Although this species may have undergone a decline, recent annual counts in Israel suggest the population has recovered to some extent in recent years. In Europe, the population size is estimated to be stable.

More than 1% of the global population use the flyway passing over the project site (RCREEE and ECOConsult 2020). The only count that exceeded the threshold was of 1,705 individuals at the project site in spring 2020 (RCREEE and ECOConsult 2020) approximately 2.8% of the global population. Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

Greater Spotted Eagle <i>Clanga clanga</i> – Vulnerable (VU)
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Justification for triggering threshold of criterion

The Spotted Eagle occupies a fragmented range, breeding in lowland forests near wetlands from Estonia, Poland, Belarus, Russia, Ukraine, Kazakhstan, China, Mongolia, Pakistan and north-west India. It is a migratory species, with birds leaving their breeding grounds in October and November to winter in southern Europe, southern Asia and north-east Africa. They usually return in February and March. Birds migrate on a broad front, tending to pass in singles, twos and threes with the occasional larger group.

The global population is estimated at 5,000-13,200 individuals (IUCN 2018). The species has undergone a decline as a result of habitat loss and degradation throughout its breeding and wintering ranges. The European population (25-49% of the global range) is estimated to have decreased by 50-79% in three generations (c. 50 years). Beside habitat destruction and disturbance (the species being intolerant to human presence in their territories), poaching and electrocution are considered as important threats. Hybridization with the Lesser Spotted Eagle have been observed but it remains unclear if this is of conservation concern (BirdLife International 2017b).

More than 1% of the global population use the flyway passing over the project site (RCREEE and ECOConsult 2020). The highest count that exceeded the threshold was of 341 individuals at the project site in spring 2020 (RCREEE and ECOConsult 2020) approximately 6.8% of the global population. Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

Steppe Eagle <i>Aquila nipalensis</i> – Endangered (EN)

Justification for triggering threshold of criterion

Steppe Eagle nests in areas of steppe and semi-desert east of 43°E in European Russia from the Republic of Kalmykia, across Kazakhstan into Kyrgyzstan, China and Mongolia. A small breeding population has also been recorded in Turkey. The species is migratory, with birds wintering in south-east Africa and southern Asia.

Migrants leave their breeding grounds between August and October, returning between January and May. It avoids sea crossings and thus forms large concentrations at bottleneck sites.

Combined totals from across the whole range estimate the number of pairs at 31,372 (26,014-36,731) which equates to 62,744 (52,028-73,462) mature individuals or 94,116 (78,042-110,193) individuals. The global population is estimated to number less than 37,000 pairs.

More than 1% of the global population use the project site (Ecoda 2013; Environics 2016a, 2017b; RCREEE 2018, RCREEE and ECOConsult, 2020). The highest count over the project area was of 17,152 birds during spring 2020 at the project site (RCREEE and ECOConsult 2020), representing approximately 23% of the global population when adjusted for immature birds (IUCN,2019). Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

Levant Sparrowhawk <i>Accipiter brevipes</i> – Least Concern (LC)

Justification for triggering threshold of criterion

The Levant Sparrowhawk breeds from East Europe to Russia and Kazakhstan to the east and Iran to the south. The species is a migrant, likely wintering in sub-Saharan Africa. Birds leave their breeding grounds in September, returning in April and May. It is usually solitary, but may hunt in pairs, and travels in flocks on migration which become especially large at certain bottlenecks. It is sometimes active at twilight, and frequently migrates at night using flapping flight.

The global population is estimated at 7,400-18,400 mature individuals. The population is suspected to be stable. No substantial threats are known for the species except that it is highly vulnerable to the impacts of potential wind energy development (BirdLife International 2016).

More than 1% of the global population is estimated to use the flyway passing over the project site (Ecoda 2013; Environics 2017b; RCREEE 2018, RCREEE and ECOConsult 2020). The highest count was in the RSWE Project area itself, where 4,230 birds – which represent approximately 48% of the global population (including immature individuals) – were observed in spring 2020 (RCREEE and ECOConsult 2020). Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

Eurasian Buzzard <i>Buteo buteo</i> – Least Concern (LC)
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Justification for triggering threshold of criterion

The Eurasian Buzzard has an extremely large range and lives in a wide variety of habitats. Populations in Scandinavia and most of the former Soviet Union are migratory, wintering in Africa and southern Asia. Those elsewhere are resident. Migrants move south between August and November and make the return journey between February and May. Birds tend to occur singly or in pairs, sometimes forming small family groups at roosts. However, they can migrate in groups, and as birds avoid sea crossings (and even freshwater bodies) as far as possible, they form huge concentrations at peninsulas and narrow straits. Migration is strictly diurnal, and also often follows mountain ranges and ridges.

The global population is estimated to 2,170,000-3,690,000 mature individuals, with 75% of the population living in Europe. The overall population trend is stable. The most important historical threat though has been from persecution, including through poisoned bait traps, with pesticides and habitat loss also causing some declines. It is highly vulnerable to the impacts of potential wind energy developments. Ingestion of lead shot may also be a threat.

Approximately 1% of the global population use the flyway passing over the project site. 86,740 birds were counted at the RSWE project site during spring 2020 (RCREEE and ECOConsult 2020). When the potential proportion of immature birds is taken into account this represents about 2.8% of the global population. Because the Project area does not represent a bottleneck or stop-over area, this species does not qualify the

Project area as Critical Habitat, but the Project should aim to avoid all impacts in order to achieve no net loss.

3.2.3.1 Migratory soaring birds: at a flyway scale within Egypt

There are 34 identified Important Bird Areas (IBAs) in Egypt, of which five were identified for (at least in part) congregations of birds (Table 6, Figure 8). These sites are all considered bottlenecks for migratory soaring birds, and considered among the six most important sites on the flyway within the Middle East and North Africa (of about 24 such sites in that region: Porter 2005). This is because these “land-bridge” sites are located next to the shortest sea crossings between two land masses and so genuinely concentrate migratory soaring birds (which have difficulty migrating over water). A review of literature and expert consideration of other potential bottleneck sites in the flyway did not reveal any other likely candidate sites not yet identified as IBAs.

All five of these Important Bird Areas should be considered Critical Habitat, because they represent the most important bottleneck sites for migratory soaring birds in the flyway and – in most cases – involve stop-over (resting/roosting areas) and are areas where flights of a large numbers of individuals are aggregated in airspace close to the ground.

Table 6 Important Bird and Biodiversity Areas for migratory soaring birds in Egypt

IBA	Map ref.	IBA Criteria*	Bottleneck ?	Low flight?	Stop-over area?
Ain Sukhna	34	A1, A3, A4iv	Yes	Regularly	Regularly
El Qa plain	32	A1, A4iv	Yes	Regularly	No
Gebel El Zeit	31	A1, A4iv	Yes	Regularly	Regularly
Ras Mohammed National Park	33	A1, A4iv	Yes	Regularly	Regularly
Suez	30	A1, A4iv	Yes	Occasionally	Occasionally

* A1 highlights importance for threatened species; A3 for biome-restricted species; and A4iv for bottlenecks of migratory soaring birds

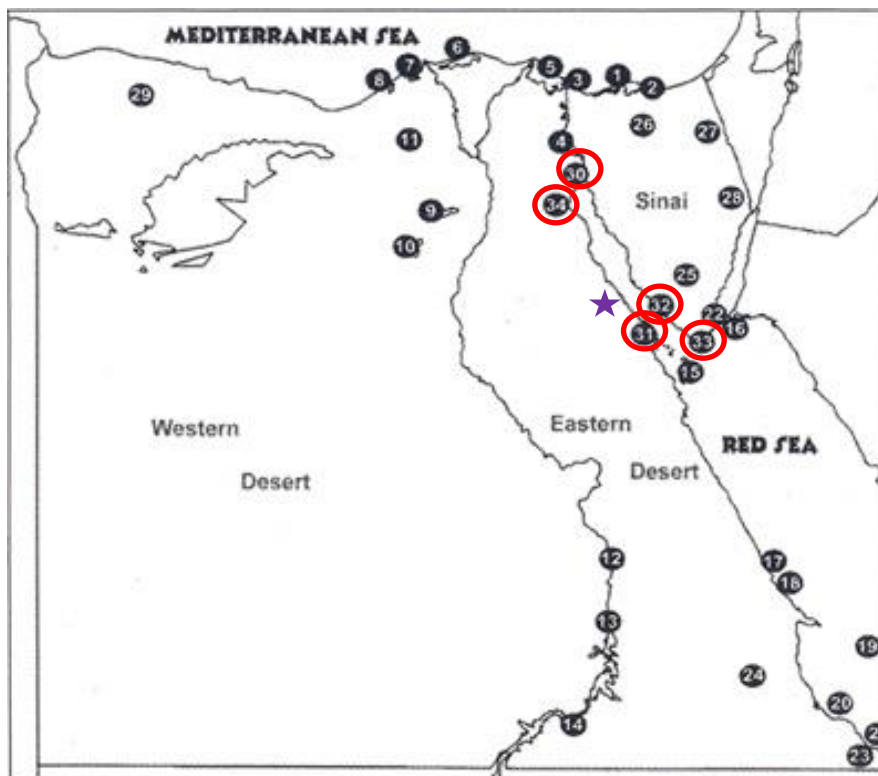


Figure 8 Important Bird and Biodiversity Areas of Egypt. IBAs important for migratory soaring birds are circled in red. Ain Sukhna = 34, El Qa plain = 32, Gebel El Zeit = 31, Ras Mohammed National Park = 33, Suez = 30). Approximate project location marked with star. (Map source: Egyptian Environmental Affairs Agency)

3.2.3.2 Migratory soaring birds within the Project and its Aol

Available data indicate that globally important numbers of eight MSB species seasonally migrate over the area within and surrounding Aol at levels which have the potential to exceed thresholds for Critical Habitat under this Criterion. The eight species are: Steppe Eagle, Levant Sparrowhawk, Eurasian Buzzard, European Honey-buzzard, Greater Spotted Eagle, White Stork, Black Stork and Great White Pelican.

According to BirdLife International: *“Birds of prey, storks and pelicans migrate through and usually land, rest, or roost near the coastline and on the surrounding desert plains and hills. Resting and roosting storks, especially, utilize the two bays of Ghubbet El Zeit and Ghubbet El Gamsa and the saltmarsh at Sabkhet Ras Shukheir”*. Within the IBAs these areas are further south than the area overlapped by the main EAAA. Baseline monitoring of MSBs for the ESIA only detected relatively very small numbers of MSBs landing in the EAAA, and although larger numbers may be present in adverse weather/environmental conditions e.g., sandstorms, these situations are likely to be unpredictable and reasonably irregular.

The low incidence of birds landing or roosting in this area is further supported by the results of the Strategic and Cumulative Environmental and Social Assessment for Wind Power Projects in the Gulf of Suez (RCREEE 2018) which recorded very few birds landing and which concluded that the importance of this area as a roosting site for large soaring birds is low. Summarizing, the available evidence from bird migration studies indicates that is an area of relatively low importance for MSBs and other species. Specifically, there is no evidence from field surveys that the project site is used as a stop-over during migration.

3.2.4 Criterion v (PR6) and 5 (PS6) Key evolutionary processes

- **Assessment.** The Project area does not qualify as within Critical Habitat under PR 6 criterion v or PS6 Criterion 5.
- **Justification.** This criterion is defined by the physical features of a landscape that might be associated with particular evolutionary processes, and/or subpopulations of species that are

phylogenetically or morpho-genetically distinct and may be of special conservation concern given their distinct evolutionary history (IFC 2012b, paragraph GN95).

Although key evolutionary processes may operate at various spatial scales, in the sense of PS6 these are usually considered at a relatively fine scale rather than broad biogeographic regions (e.g. an individual mountain that may have acted as a glacial refugium and thus hosted the evolution of a suite of endemic species). No quantitative significance thresholds exist for this criterion, so there is a reliance on expert opinion and qualitative value judgement. Areas associated with key evolutionary processes were screened using expert advice.

Given the very sparse vegetation, composed mainly of widespread desert plant species with limited evidence of local endemism, and the low density of animal species, it is very unlikely that any key evolutionary processes could occur in the Project area.

3.3 Natural Habitat and Modified Habitat

Based on the field assessments that have been carried out at the project site and also based on the literature, the study area encompasses mostly Natural Habitats - particularly hamada desert areas classified as barren areas with no or minimal vegetation along runoff wadis. Small patches of sparse shrubs are present along the sea. Modified Habitats are urban areas present in few locations along the Red Sea. The project would need to demonstrate no net loss for natural habitat.

3.4 Priority Biodiversity Features

3.4.1 PBF Criterion i: Threatened habitat

Earlier assessment undertaken at the project site and the study area as a whole did not identify any vegetation or ecosystems present in the vicinity of the Project that might be threatened, see Section **Error! Reference source not found.**. Therefore, no vegetation type qualifies for Criterion i under Priority Biodiversity Features.

3.4.2 PBF Criterion ii: Vulnerable species

One globally Vulnerable reptile species has a significant presence in the Project area and is thus identified as a Priority Biodiversity Feature – *Uromastix aegyptia* (Egyptian Spiny-tailed Lizard). Three globally Vulnerable, and two Endangered migratory soaring birds are seasonally present in the Project area in notable numbers. These species are more appropriately discussed in section 3.4.3.

Egyptian Spiny-tailed Lizard <i>Uromastix aegyptia</i> – Vulnerable (VU)
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Justification for triggering PBF criterion ii

The Egyptian Spiny-tailed Lizard has a patchy distribution from Egypt (east of the Nile), eastwards into Israel, Jordan, southern Syria, Iraq and Iran and southwards into the Arabian Peninsula. It occurs in open, flat, gravelly, stony and rocky areas, and it is infrequently seen in sandy areas. Animals forage on low vegetation close to their burrows, where it lives in loose colonies.

There is no information about the global population but the species is generally uncommon and declining throughout its range in Egypt. The species is threatened by habitat loss due to over-grazing, quarries and agricultural expansion, and pet and medicinal trade (some of them being illegal). The species is protected by Egyptian legislation (Wilms et al. 2012), implying that it cannot be killed or captured in any protected area.

During the ecological field assessments that were carried out at the project site in autumn 2019 and spring 2020, but confirmed in 2023 (SafeSoar and Nature Egypt 2023). Also, the species was recorded in autumn 2016 in the Lekela BOO Project area to the south of the project site (Environics 2018). Despite its broad distribution, the Egyptian Spiny-tailed Lizard is assessed globally as Vulnerable, declining throughout its

range, and poorly-known, and thus considered a Priority Biodiversity Feature for which no net loss is required

3.4.3 PBF Criterion iii: Significant biodiversity features identified by a broad set of stakeholders or governments

Available data show that globally-important concentrations of ten migratory soaring bird species migrate over the area in the vicinity of the Project, see **Error! Reference source not found.** The analysis in section **Error! Reference source not found.** shows that although these species meet the thresholds of criterion iv, the area does not qualify as Critical Habitat because these species do not use it as a stop-over during migration, and the project area is not a bottleneck in the flyway corridor. However, the concentrations of these species are of significant interest to national and international conservation stakeholders. In addition to the above-mentioned ten species, Sooty Falcon *Falco concolor*, is a globally threatened (Vulnerable) species has been documented to pass through the study area in significant numbers (but below the numerical thresholds for Critical Habitat). The threatened status of the species is an indication of its interest to conservation stakeholders. It is considered the MSBs are considered to be Priority Biodiversity Features and the requirements for no net loss should be met

Sooty Falcon <i>Falco concolor</i> – Vulnerable (VU)
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Justification for triggering PBF criterion iii

The species breeds colonially in hot and arid environments, using on cliffs, small rocky islands and rugged desert mountains. Breeding occurs in a discontinuously range including Libya, eastwards through Egypt to the Red Sea islands off Sudan, Djibouti and Ethiopia, islands and coasts of Saudi Arabia, Yemen, Israel, Jordan and Bahrain, as well as islands in the Persian Gulf. Breeding is timed to coincide with the autumn migration of small birds on which it feeds. It is a migratory species, with birds arriving in their wintering grounds in Madagascar (and in a few extant in coastal Mozambique and eastern South Africa) from late October and returning to breeding sites in April. Migrants generally travel singly, or in pairs or small flocks.

The global population is estimated at 2,800-4,000 mature individuals. The species has undergone a decline, which seems to be due to pressures in wintering grounds or on migration, although precise drivers of the decline remain unclear.

The species is known to breed in Egypt and more specifically along the Galalah Highlands by the western coastline of the Gulf of Suez, see Figure 9. Although its numbers in the project area and its vicinity does not meet the Critical Habitat threshold since a maximum of 0.7% of the global population has been observed (RCREEE 2018), the species is believed to be of high conservation value.

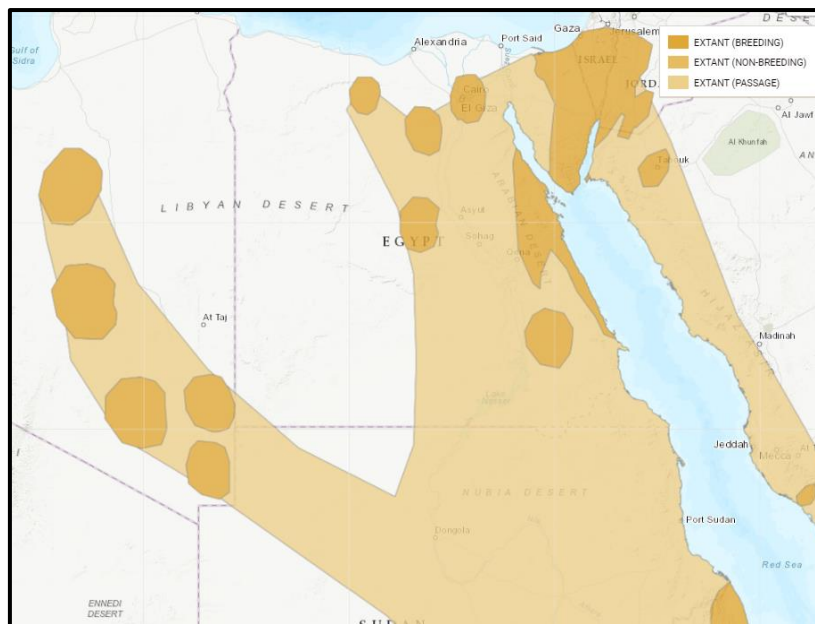


Figure 9. Geographic range of Sooty Falcon *Falco concolor* (IUCN, 2020)

3.4.4 PBF Criterion iv: Ecological structure and functions that are vital to maintaining the viability of biodiversity

As for Critical Habitat, PR6 requires that ecological functions that are vital to maintaining the viability of Priority Biodiversity Features also qualify as Priority Biodiversity Features. As is the case for migratory birds reaching Critical Habitat thresholds, migratory birds qualifying as Priority Biodiversity Features do not appear to stop over within the Project area. Therefore, the Project area does not include ecological functions essential for the viability of the migratory bird species and does not qualify under Criterion iv.

Regarding the Egyptian Spiny-tailed Lizard, it is documented to be present at the project site (RCREEE, 2018), but nothing suggests that the area contains specific ecological functions that are vital for the species. Therefore, the study area does not qualify under Criterion iv.

4 PROTECTED AREAS & INTERNATIONALLY RECOGNISED AREAS

The project site does not overlap with any protected areas or internationally recognised areas. The Project concession is located, at its closest point, more than 22km from Gebel El Zeit Important Bird Area (IBA), see Figure 10. The IBA is defined as a Key Biodiversity Area. This IBA is a 100 km-long strip extending from Ras Ghareb to the bay of Ghubbet El Gemsa, along the Gulf of Suez. The Gebel El Zeit area is a very important migration corridor and stop off point for soaring migrants, particularly birds of prey and storks. It is the narrowest point in the southern part of the Gulf of Suez. Over 250,000 White Storks and many other migrant soaring birds are funnelled through this stretch of coast on both spring and autumn journeys. Birds of prey, storks and pelicans migrate through and usually land, rest or roost near the coastline and on the surrounding desert plains and hills. The IBA is classified under criteria A1 (site regularly holding significant numbers of globally threatened species) and A4 (site known to hold congregations of more than 1% of the global population of a species) (BirdLife, 2020). The IBA has been considered to be critical habitat in other CHA conducted in the area (e.g. Lekela).



Figure 10. Location of the project site in reference to Gebel El Zeit IBA/KBA

Malahet Ras Shukeir, which is located inside the IBA/KBA of Gebel El Zeit, was proposed as a National Protected Area in 1999. El-Galala El-Qebalya is another proposed protected area to the north of the Project (4815km²), which was also proposed as a Protected Area in 1999. No wind farm developments are planned in the area, and the RSWE project site is by the southeastern boundaries of the proposed protected area. Both proposed protected areas are outside the Presidential Decree area for the development of wind energy projects.

5 NEXT STEPS

The Project site is not located in a Critical Habitat, but it is located 22km from the Gebel El Zeit IBA, which is identified as an area of Critical Habitat. However, although the project site is not located inside a Critical Habitat, globally important numbers of migratory soaring birds pass over the Project area and wind farm development in this narrow migratory corridor present a risk to these species. This means the Project will need to pay attention specifically to avoid collisions of migratory soaring birds.

In Natural Habitat, no net loss is required where feasible. No net loss is required, and preferably a net gain, for priority biodiversity features. The Project should aim to avoid all impacts on – and thus achieve no net loss for – the ten migratory bird species passing over the Project area in globally important numbers, the single globally threatened bird species passing over in notable numbers and the Egyptian dab lizard. Measures to avoid impacts and achieve NNL are presented in the project ESIA and ESMS manual and will be developed further through the ESAP.

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