



ELMED Etudes SARL

Contractor Doc No: Annex A

Date
2023-01-23

Page 1 of 37

Tunisia-Italy Power Interconnector Project

Environmental and Social Impact Assessment (ESIA)

Annex A– IBAT Assessment - Screening Report

JV HPC – IDEACONSULT – PROGER – ELARD - PLEXUS

Rev.	Date	Description	Prepared by	Checked by	Approved by
02	2023-01-23	Revision after WB's comments	PROGER (F.Salomone)	PROGER (M.Agostinone)	HPC (A.Cappellini)
01	2022-11-30	Revision after Elmed's comments			
01	2022-11-15	First emission			

ELMED

Revision Approved	Approval Date	Approved by

TABLE OF CONTENTS

1.	INTRODUCTION.....	3
1.1	Objectives of the Study	3
1.2	Project areas of interest.....	4
2.	Methodology.....	5
2.1	IBAT database	5
2.2	Screening approach	5
2.3	Assumptions and Limitations.....	6
3.	Zone 1 – Onshore Tunisia (overhead line).....	7
3.1	Biodiversity significance	7
3.1.1	Species of conservation importance.....	7
3.1.2	Protected areas and key biodiversity areas (PA/KBA).....	13
4.	Zone 2 – Onshore Tunisia (underground cable and converter station).....	17
4.1	Biodiversity significance	17
4.1.1	Species of conservation importance.....	17
4.1.2	Protected areas and key biodiversity areas (PA/KBA).....	21
5.	Zone 3 – Nearshore Tunisia.....	23
5.1	Biodiversity significance	23
5.1.1	Species of conservation importance.....	23
5.1.2	Protected areas and key biodiversity areas (PA/KBA).....	24
6.	Zone 4 – Offshore areas	26
6.1	Biodiversity significance	26
6.1.1	Species of conservation importance.....	26
6.1.2	Protected areas and key biodiversity areas (PA/KBA).....	26
7.	References.....	27
Appendix 1	– Original IBAT report	29
Appendix 2	– IUCN-listed CR, EN, VU terrestrial species which distribution overlaps with the IBAT buffer area	30
Appendix 3	– IUCN-listed CR, EN, VU marine species which distribution overlaps with the IBAT buffer area	34
Appendix 4	– Other protected areas and key biodiversity areas (PA/KBA).....	37

					
Contractor Doc No: Annex A		Date 2023-01-23	Page 3 of 37		

1. INTRODUCTION

1.1 Objectives of the Study

This report presents the findings of the Integrated Biodiversity Assessment Tool (IBAT) analysis for the ELMED project, a new 600 MW High Voltage Direct Current (HVDC) electricity interconnection between Tunisia (Cap Bon peninsula) and Italy (Sicily). The Project seeks funding from international lenders, including the World Bank.

The objective of this report is to identify priority biodiversity features in and around the project areas that are potentially at risk from project impacts in order to inform mitigation planning in accordance with World Bank's Environmental and Social Framework (ESF)'s [ESS6](#) on biodiversity conservation and sustainable management on living natural resources (World Bank, 2017).

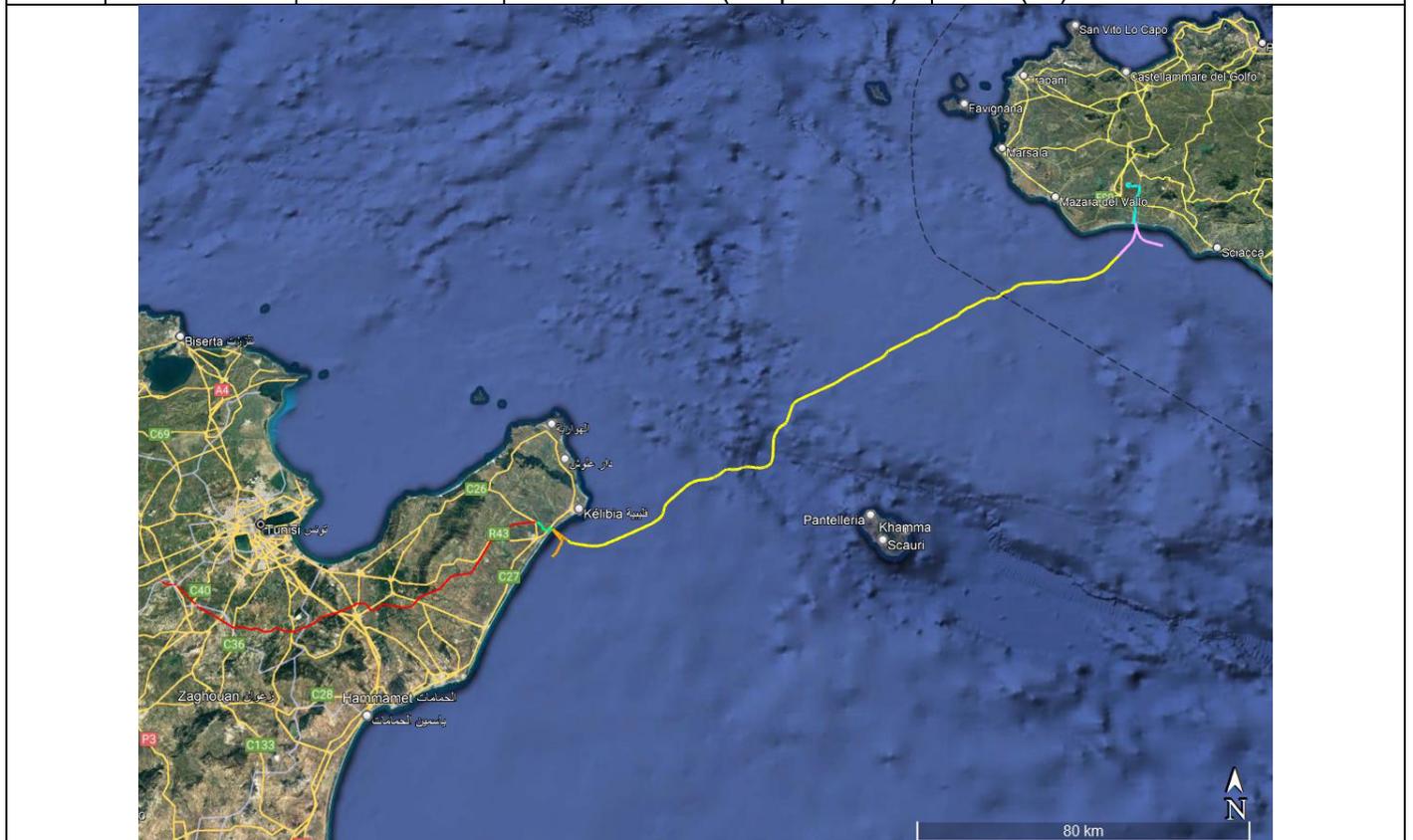
The outcome of this analysis should therefore be intended as a preliminary overview of key biodiversity features and potential risks associated to the project, further analyzed within the ESIA and/or other environmental studies.

1.2 Project areas of interest

The ELMED project departs from the Italian substation of Partanna in Sicily, follows the route of existing roads (underground) to the coastal locality of Marinella di Selinunte, crosses the Mediterranean via marine underground cables until the Tunisian coastal town of Kélibia, joins the station of Mlaâbi, from which it will reach Mornaguia electrical station, south of Tunis city, via an overhead transmission line (OHL). For the sake of this analysis, the Project is split up into 4 zones (see Table 1.1), which are evaluated independently.

Table 1.1: Project zones considered in the present analysis

Zone	Country	Type of zone	Project element	Buffer considered around infrastructure (Project areas of influence)
1	Tunisia	Onshore	● Overhead line (OHL)	15 km (x2)
2	Tunisia	Onshore	● Onshore cable + Converter station (CS)	0.5 km (x2)
3	Tunisia	Nearshore	● Marine cable (shallow waters)	1 km (x2)
4	International	Offshore	● Marine cable (deep waters)	1 km (x2)



2. METHODOLOGY

2.1 IBAT database

This review is based on the extraction of [IBAT](#) data within an area of 15 km around the overall Project linear route, including its Italian section (see Figure 2.1). The analysis assessed the risk of globally significant biodiversity features overlapping with the Project areas of influence located in Tunisia and offshore, previously presented in Table 1.1.

The IBAT platform includes the following global datasets:

- **IUCN Red List of Threatened Species**, managed by the IUCN.
- **World Database on Protected Areas (WDPA)**, managed by United Nations Environment World Conservation Monitoring Centre (UN WCMC).
- **World Database of Key Biodiversity Areas (KBA)**, managed by BirdLife on behalf of the KBA partnership.

The original IBAT report is provided in Appendix 1, as a standalone document.

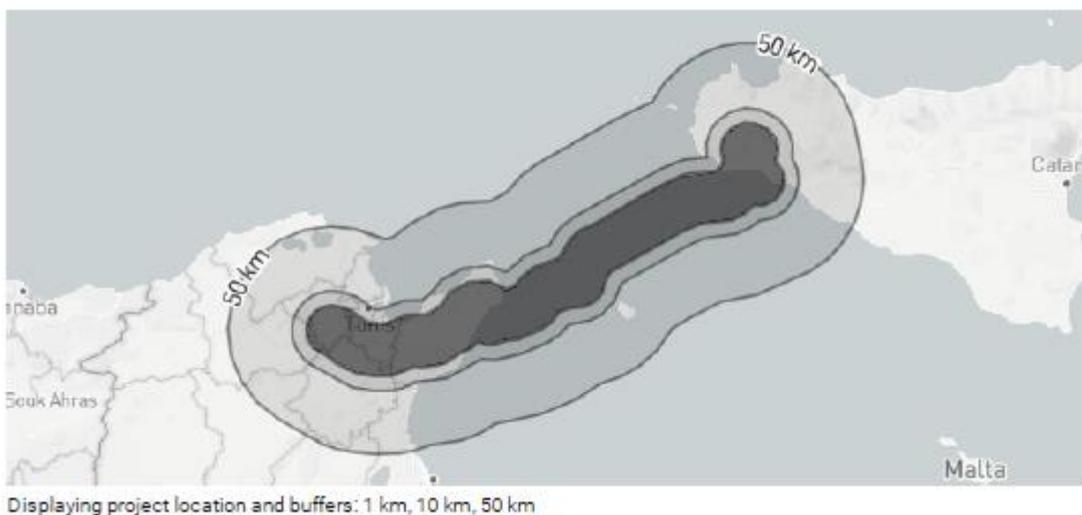


Figure 2.1: Project location and buffers considered in the IBAT report

2.2 Screening approach

The review was undertaken based on the following approach:

- Review of IUCN-listed species extracted through IBAT that are listed as threatened (Critically Endangered (CR), Endangered (EN) and Vulnerable (VU)) and additional literature review on those species to evaluate the risk of the species being present in the project area (list of CR/EN/VU species contained in the IBAT Report is provided in Appendix 2 and Appendix 3). Specific attention was given to CR and EN species as these are potential triggers for Critical habitat identification according to World Bank's ESS6 (see Box 2.1 below).
- Review of location and key features of protected areas and key biodiversity areas (PA/KBA) located within the project area of analysis (buffer considered for each section, as per Table 1.1) to evaluate potential risks of impacts.
- Review of existing project feasibility studies to cross check key biodiversity features.

					
Contractor Doc No: Annex A		Date 2023-01-23	Page 6 of 37		

Box 2.1: Definition of Critical Habitats according to World Bank ESS6

According to the World Bank's ESS6, critical habitats are defined as areas with high biodiversity importance or value, including:

- Habitat of significant importance to Critically Endangered or Endangered species, as listed in the IUCN Red List of threatened species or equivalent national approaches;
- Habitat of significant importance to endemic or restricted-range species;
- Habitat supporting globally or nationally significant concentrations of migratory or congregatory species;
- Highly threatened or unique ecosystems; and
- Ecological functions or characteristic

Sections 3 to 6 provide a summary of key findings of the IBAT analysis. More details can be found in the Appendices.

Results are presented by project zones (as per Table 1.1) to facilitate the interpretation of results and better inform decision-making at local level. It is noted that this report structure implies some repetitions and redundancy across sections.

2.3 Assumptions and Limitations

This report draws on the following assumptions:

- An overlap between the potential distribution of a species (IUCN) and the project buffer does not necessarily mean the species is actually present and that an impact will occur. Only additional literature review, expert consultation and, as appropriate, field surveys may confirm presence.
- The majority of PAKBA were already identified and mentioned in the Project feasibility studies.
- This analysis only draws on existing secondary data; no primary data were collected as part of this review.
- The evaluation of the risk of significant impacts on species of conservation importance presented in this report is based solely on the IBAT tool data and does not take into account further analysis and biodiversity surveys performed within the ESIA and or other environmental studies.
- This analysis includes an expert-based review of priority biodiversity features that have the potential to meet World Bank's criteria for Critical habitat identification (as per Box 2.1).

3. ZONE 1 – ONSHORE TUNISIA (OVERHEAD LINE)

3.1 Biodiversity significance

3.1.1 Species of conservation importance

The Cap Bon peninsula, notably the wetlands around El Haouaria, is an important feeding area and essential stopover for many migratory birds (birds-of-prey and large soaring birds, e.g. White Stork *Ciconia ciconia*) on their seasonal journeys between Europe and Africa across the Strait of Sicily¹. The various man-made water reservoirs (barrages) are important for waterbirds such as the Endangered (EN) White-headed Duck (*Oxyura leucocephala*). The area is also highly threatened by hunting².

High priority species for Zone 1 are presented in the table below.

Table 3.1: Species of conservation importance (Onshore Tunisia, overhead line)

Species	IUCN status	Distribution	Presence in Project area	Potential CH trigger	Risk of significant impacts from the Project
White-headed Duck (<i>Oxyura leucocephala</i>)	EN	This bird is known to be resident in Northern Africa, where 400-600 individuals are estimated in Algeria and Tunisia. It breeds on small enclosed semi-permanent brackish or eutrophic lakes surrounded by emergent vegetation (BirdLife International, 2022). It is known from the Mlâabi dam and other areas nearby the overhead line route (Ideaconsult et al, 2022)	Confirmed	Likely	Medium
Egyptian Vulture (<i>Neophron percnopterus</i>)	EN	This bird is Vulnerable (VU) in the Mediterranean according to a recent assessment (Westrip et al, 2022). It occurs in a variety of habitats and typically nests on ledges or in caves on cliffs. It is known to breed in Tunisia. An important part of the breeding population of Eurasia passes through the Strait of Gibraltar and the Red Sea Flyway, but individuals also pass through Cap Bon in	Reported but not confirmed	Likely if presence confirmed	High

¹ <https://www.ornithomedia.com/magazine/etudes/synthese-suivi-migration-cap-bon-tunisie-4-avril-1er-mai-2003-01819/?cn-reloaded=1>

² <https://lapresse.tn/90282/oiseaux-migrateurs-quand-le-cap-bon-chasse-ses-oiseaux-jusqua-lextinction/>

Species	IUCN status	Distribution	Presence in Project area	Potential CH trigger	Risk of significant impacts from the Project
		Tunisia. In Tunisia illegal trade and poisoning have been reported. Collision with and electrocution by power lines are a potential threat to the species.			
Saker Falcon (<i>Falco cherrug</i>)	EN	This bird is Critically Endangered (CR) in the Mediterranean according to a recent assessment (Westrip & BirdLife International, 2022a). Within the Mediterranean region it is only thought to breed in North Macedonia, where there is a tiny population of 0-3 pairs. It has traditionally been used for falconry purposes.	Reported but confirmed	Likely if presence confirmed	High
Red-footed Falcon (<i>Falco vespertinus</i>)	VU	This bird is Critically Endangered in the Mediterranean (CR) according to a recent assessment (Westrip & BirdLife International, 2022b). In the Mediterranean the species only breeds in Northern Italy and Turkey. Main threats include illegal killing and poisoning, as well as electrocution on power lines.	Reported but not confirmed	Likely if presence confirmed	High
Punican Bleak (<i>Anaocypris punica</i>)	CR	This fish is endemic to the upper Medjerda River catchment in Tunisia and Algeria (only two small highly fragmented subpopulations remaining where they inhabit small-to-medium-sized intermittent hill streams in forested areas) but its extant distribution is poorly understood (Freyhof & Ford, 2022a). Major threats include	Not reported	Likely if presence confirmed	Low

Species	IUCN status	Distribution	Presence in Project area	Potential CH trigger	Risk of significant impacts from the Project
		pollution and excessive abstraction of ground and surface water, as well as the construction of dams.			
Tunisian Bleak (<i>Tropidophoxinellus chaignoni</i>)	EN	This fish is known from five locations in northeastern Tunisia only (Freyhof & Ford, 2022b), between the Meliane River south of Tunis to tributaries of the Sebkha Kelbia intermittent lake in Souss Governorate, including the Abid and Lebna rivers on the Cape Bon Peninsula. It prefers low altitude, slow-moving stretches of rivers and tributaries. It is unclear whether it has successfully colonised the numerous artificial reservoirs created by dam construction within its range. Major threats include pollution, excessive abstraction of ground and surface water, and dam construction	Not reported	Likely presence confirmed if	Low
<i>Thorectes puncticollis</i>	EN	This insect has a distribution restricted to sandy soils with xerothermic scrublands at low altitudes in Algeria, Tunisia and Libya. In Tunisia, it has been recently reported from new localities in Sousse, Sfax, Kairouan and Tataouine. Historical records from Tunis correspond to a subpopulation which have probably disappeared, due to the expansion of the city (IUCN)	Not reported	Likely presence confirmed if	Low
Blanc's Fringe-toed Lizard	EN	This lizard is known from coastal, and some inland, regions of northwestern	Not reported	Likely presence confirmed if	Low

Species	IUCN status	Distribution	Presence in Project area	Potential CH trigger	Risk of significant impacts from the Project
<i>(Acanthodactylus blanci)</i>		and northeastern Tunisia, and northern Algeria, between sea level up to 900 m asl. It is found in semi-arid habitats with open vegetation, at coastal sites, in dunes with plant growth, and in areas of clay substrate with shrubs or sparse Eucalyptus plantations. It has also been recorded from pine forests.			
North African Shad (<i>Alosa algeriensis</i>)	EN	This fish is anadromous ³ fish is endemic to Northern Africa and Western Sardinia coasts, including coastal lagoons and rivers. Some unconfirmed subpopulations might be landlocked residents of artificial freshwater lakes (Freyhof & Ford, 2022b).	Not reported	Likely if presence confirmed	Low
Collybie méditerranéenne (<i>Laccariopsis mediterranea</i>)	EN	Rare fungus growing in coastal dune habitats in the western Mediterranean, including Sicily (usually their habitats are Natura 2000 sites 'Coastal dunes with Juniperus spp')	Unknown	Likely if presence confirmed	Low

Among other species of conservation (but which do not appear as CR or EN) the following waterbirds are believed to be found in significant numbers in some of the man-made water storages located within the 15km buffer around the overhead line:

- Marbled Teal (*Marmaronetta angustirostris*, VU): found in significant numbers in Barrage Mlâabi and Barrage Oued El Hjar Ramsar sites. Important populations are present in other water reservoirs nearby
- Ferruginous Duck (*Aythya nyroca*, NT): >1% of the global population is believed to live in Barrage Oued El Hjar Ramsar Site. Important populations are present in other water reservoirs nearby.
- Greater Flamingo (*Phoenicopterus roseus*, LC): >1% of the global population is believed to live in Barrage Oued El Hjar Ramsar Site. Important populations are known from Lebna dam.
- Waterbirds and other bird species listed as of Least Concern (LC) but which are found in significant numbers in some reservoirs in the area (e.g. Lebna, Soliman, Masri, and possibly others) : Glossy

³ A fish migrating up rivers from the sea to spawn. The opposite of catadromous.

Ibis (*Plegadis falcinellus*), Eurasian Spoonbill (*Platalea leucorodia*), Little Bittern (*Ixobrychus minutus*), Western Swamphen (*Porphyrio porphyrio*), White stork (*Ciconia ciconia*), Mediterranean gull (*Ichthyaetus melanocephalus*), Sandwich tern (*Sterna sandvicensis*), Collared Pratincole (*Glareola pratincola*), Eurasian Wigeon (*Anas penelope*), Common Coot (*Fulica atra*), Little Grebe (*Tachybaptus ruficollis*), Great Crested Grebe (*Podiceps cristatus*), Lesser Kestrel (*Falco naumanni*), etc.

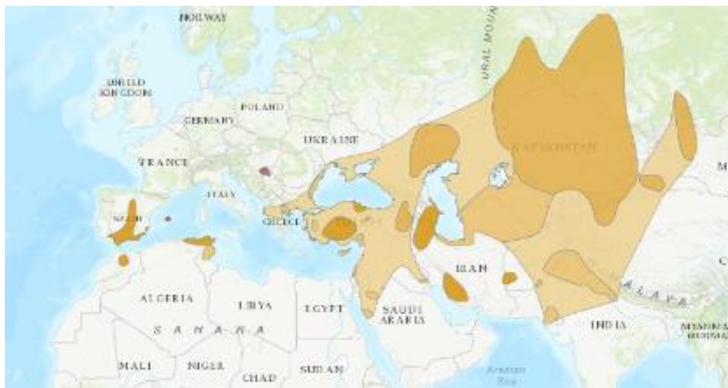


Figure 3.1: Distribution and image of the White-headed Duck (Source: IUCN)



Figure 3.2: On the left image of the Egyptian Vulture (source: www.oiseaux.net); on the right track of two Egyptian Vultures passing through Cap Bon Peninsula on their migration between Tunisia and Sicily (source: <https://flightforsurvival.org/fr/update-egyptian-vultures-sara-tobia-reach-african-skies/>)



Figure 3.3: Saker Falcon on the left, Red-footed Falcon on the right (source of both images: www.ebird.org)



Figure 3.4: Known distribution of the Punican Bleak to the left (orange: present, red: extinct) and Tunisian Bleak to the right (orange: present, purple: possibly present). Source of both images: IUCN Red List

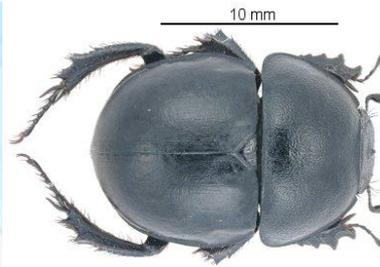


Figure 3.5: Known distribution and image of *Thorectes puncticollis*. Sources: IUCN Red List (left) and http://jcringenbach.free.fr/website/beetles/scarabaeidae/Thorectes_puncticollis.htm (right)



Figure 3.6: Known distribution and image of *Acanthodactylus blanci*. Sources: IUCN Red List (left) and <https://reptile-database.reptarium.cz/species?genus=Acanthodactylus&species=blanci> (right)



Figure 3.7: Potential distribution of *Laccariopsis mediterranea's* (Source of image: www.mycodb.fr)

3.1.2 Protected areas and key biodiversity areas (PA/KBA)

PA/KBA located around Zone 1 are presented in the table below.

Table 3.2: PA/KBA located around Zone 1 (Onshore Tunisia, overhead line)

Name	Type	Summary	Distance from Project
Barrage Mlâabi	Ramsar Site and Important Bird Area (IBA)	98 ha freshwater storage area on the Cap Bon peninsula constructed mainly for ground water recharge, serving today for irrigation. It supports several populations of waterbirds migrating between Africa and Eurasia, as well as Endangered (EN) White-headed Duck (<i>Oxyura leucocephala</i> , up to 32 individuals) and Vulnerable (VU) Marbled Teal (<i>Marmaronetta angustirostris</i>).	< 300m from Mlâabi station
Barrage oued el Hjar	Ramsar Site and Key Biodiversity Area	One of the most recent and biggest freshwater dams (254 ha) in a series recently constructed in Tunisia for agricultural purposes. It is an important migratory bottleneck for migrating birds which pass across the Mediterranean and is a nesting and wintering ground for several waterbirds (e.g. <i>Oxyura leucocephala</i> , <i>Marmaronetta angustirostris</i> . In spring, it provides a resting place for several species (not only waterbirds) which migrate to Africa in winter. It harbours more than 1% of the population of several important waterbird species including <i>Aythya nyroca</i> , <i>Oxyura leucocephala</i> and <i>Phoenicopterus roseus</i> .	< 5 km from Mlâabi station
Barrage Lebna	Ramsar Site and Important Bird Area (IBA)	1,147 ha of water reservoir isolated from the rest of the national dam system, effectively preventing any water exchange between this site and other nearby barrages. It has become a destination for tens of thousands of waterfowl migrating between Africa and Europe (<i>Marmaronetta angustirostris</i> , <i>Oxyura leucocephala</i> , <i>Aythya nyroca</i> etc.). The site is classified as an IBA due to its importance for migratory and nesting waterbirds (number exceed 20.000 birds), such as the Glossy Ibis (<i>Plegadis falcinellus</i>), the Eurasian Spoonbill (<i>Platalea leucorodia</i>), the Little Bittern (<i>Ixobrychus minutus</i>), the Western Swamphen (<i>Porphyrio porphyrio</i>), etc..	< 2 km from the overhead line

Name	Type	Summary	Distance from Project
Barrage Sidi Abdelmoneem	Ramsar Site and Key Biodiversity Area (KBA)	31 ha artificial reservoir which provides nesting opportunities for many threatened waterfowl species (<i>Oxyura leucocephala</i> , <i>Marmaronetta angustirostris</i>).	<5 km from the overhead line
Barrage El Masri	Important Bird Area (IBA)	Unlike the Cap Bon reservoirs, it has been constructed for water-supply to the national grid rather than local irrigation. It is situated quite high up in the Dorsale and flanked by mountains which reach 660 m, to the west of the town of Grombalia, south-east of Tunis. Though the reservoir is small, it holds <i>Oxyura leucocephala</i> (10–50 pairs), while breeding species include <i>Podiceps cristatus</i> and <i>Tachybaptus ruficollis</i> . Wintering waterbirds include <i>Aythya ferina</i> and <i>Fulica atra</i> .	~10 km from overhead line
Jbel Zaghouan	Key Biodiversity Area	Very little information on the biodiversity value of this KBA ⁴	Overlap according to IBAT dataset, but considered to be an error (*)
(*) Jbel Zeghouan is also a National Park, which based on relevant literature is located > 15 km south from the OHL with no direct overlapping with the latter (ATECMA, ECOTONO, 2012 and Oréade-Brèche, 2021. The KBA mapping contained in the IBAT Core GIS data package seems to be erroneous.			
Aqueduc de Zaghouan	IBA	The site is a Roman aqueduct, situated 17 km south of Tunis, which used to form part of the Zaghouan to Carthage water-supply system. It consists of a series of 20-m-high pillars and arches in which many cavities and holes have developed. The cavities and holes in the aqueduct are used as nesting and roosting sites by <i>Falco naumanni</i> (30 pairs), <i>F. biarmicus</i> , <i>F. tinnunculus</i> , <i>Coracias garrulus</i> , <i>Petronia petronia</i> , <i>Sturnus unicolor</i> and <i>Corvus corax</i>	~ 5km from overhead line
Lagunes du Cap Bon oriental / Korba	Ramsar Site and IBAT	504 ha coastal wetlands isolated from the sea by a thin sand strip and beaches. The variety of habitats and vegetation make the site ideal for several species of fauna, especially reptiles and waterfowl, several of which are threatened.	~10 km from overhead line
Lagunes de Soliman (Sebkhet Soliman)	Ramsar Site and IBA	The coastal plains of Soliman are located at the southern end of the Gulf of Tunis, between two mountains, Djebel Bou Kournine and Djebel Korbeus. The site is representative of	~10 km from overhead line

⁴ <https://www.keybiodiversityareas.org/site/factsheet/31736>

Name	Type	Summary	Distance from Project
		the large coastal plain in a quasi-natural state and includes a lagoon, sandy areas and dunes. It serves as a refuge for species whose original habitats have disappeared, particularly given the proximity to Tunis, It is an important refuge for waterbirds, supporting nesting populations of many species, such as Marbled teal (<i>Marmaronetta angustirostris</i>), White stork (<i>Ciconia ciconia</i>), Mediterranean gull (<i>Ichthyaetus melanocephalus</i>), Sandwich tern (<i>Sterna sandvicensis</i>) and Collared Pratincole (<i>Glareola pratincola</i>).	
Complexe des zones humides de barrage Ghédir El Golla et barrage El Mornaguia	Ramsar Site and Important Bird Area (IBA)	273 ha freshwater storage areas nearby the city of Tunis constructed for potable water supply and irrigation, providing nesting grounds for several waterbirds and a wintering ground for migrating species, including the Eurasian Wigeon (<i>Anas Penelope</i>), the Marbled Teal (<i>Marmaronetta angustirostris</i>) and White-Headed Duck (<i>Oxyura leucocephala</i> - up to 73 individuals, representing 14 % of the species population in the West Palearctic region).	
Parc National Boukornine	National Park and KBA	19 km ² of national park located east of Tunis which supports important flora and fauna species in an increasingly urbanised landscape.	~6 km from the overhead line
Forêt de Dar Chichou	Faunal Reserve	Forest located close to the northern extreme of Cap Bon Peninsula	~15 from Mlâabi station
Barrage Bezirk	Key Biodiversity Area (KBA)	Very little information on the biodiversity value of this KBA	~10 km from overhead line
Barrage Chiba	Key Biodiversity Area (KBA)	Very little information on the biodiversity value of this KBA	<500m from overhead line
Dunes de Ras El Melan	Key Biodiversity Area (KBA)	Little information on the biodiversity value of this KBA	~10 km from overhead line



Legend

- KBA
- Jbel Zaghouan *
- Jbel Zaghouan is also a National Park, which appears to be located > 15 km south from the OHL. The IBAT KBA mapping seems to be erroneous
- 400 kV OHL Mlaabi-Mornaguia

Figure 3.8: KBA in the OHL wide area (Source: IBAT Report and core GIS data)

4. ZONE 2 – ONSHORE TUNISIA (UNDERGROUND CABLE AND CONVERTER STATION)

4.1 Biodiversity significance

4.1.1 Species of conservation importance

The Cap Bon peninsula, notably the wetlands around El Haouaria, is an important feeding area and essential stopover for many migratory birds (birds-of-prey and large soaring birds, e.g. White Stork *Ciconia ciconia*) on their seasonal journeys between Europe and Africa across the Strait of Sicily⁵. The various man-made water reservoirs (*barrages*) are of high importance for waterbirds such as the Endangered (EN) White-headed Duck (*Oxyura leucocephala*) and Vulnerable (VU) Marbled Teal (*Marmaronetta angustirostris*). The area is highly threatened by hunting⁶.

High priority species for Zone 2 are presented in the table below.

Table 4.1: Species of conservation importance (Onshore Tunisia, underground cables and Converter Station)

Species	IUCN status	Distribution	Presence in Project area	Potential CH trigger	Risk of significant impacts from project
White-headed Duck (<i>Oxyura leucocephala</i>)	EN	This bird is known to be resident in Northern Africa, where 400-600 individuals are estimated in Algeria and Tunisia. It breeds on small enclosed semi-permanent brackish or eutrophic lakes surrounded by emergent vegetation (BirdLife International, 2022). It is known from the Mlâabi dam (Ideaconsult et al, 2022)	Confirmed	Likely	Medium
Egyptian Vulture (<i>Neophron percnopterus</i>)	EN	This bird is Vulnerable (VU) in the Mediterranean according to a recent assessment (Westrip et al, 2022). It occurs in a variety of habitats and typically nests on ledges or in caves on cliffs. It is known to breed in Tunisia. An important part of the breeding population of Eurasia passes through the Strait of Gibraltar and the Red Sea Flyway, but individuals also pass through Cap Bon in Tunisia. In Tunisia illegal trade and poisoning have been reported. Collision with and electrocution by power lines are a potential threat to the species.	Reported but not confirmed	Likely if presence confirmed	Low
Saker Falcon (<i>Falco cherrug</i>)	EN	This bird is Critically Endangered (CR) in the Mediterranean according to a recent assessment (Westrip & BirdLife	Reported but not confirmed	Likely if presence confirmed	Low

⁵ <https://www.ornithomedia.com/magazine/etudes/synthese-suivi-migration-cap-bon-tunisie-4-avril-1er-mai-2003-01819/?cn-reloaded=1>

⁶ <https://lapresse.tn/90282/oiseaux-migrateurs-quand-le-cap-bon-chasse-ses-oiseaux-jusqua-lextinction/>

Species	IUCN status	Distribution	Presence in Project area	Potential CH trigger	Risk of significant impacts from project
		International, 2022a). Within the Mediterranean region it is only thought to breed in North Macedonia, where there is a tiny population of 0-3 pairs. It has traditionally been used for falconry purposes.			
Red-footed Falcon (<i>Falco vespertinus</i>)	VU	This bird is Critically Endangered in the Mediterranean (CR) according to a recent assessment (Westrip & BirdLife International, 2022b). In the Mediterranean the species only breeds in Northern Italy and Turkey. Main threats include illegal killing and poisoning, as well as electrocution on power lines.	Reported but not confirmed	Likely if presence confirmed	Low
Tunisian Bleak (<i>Tropidophoxinellus chaignoni</i>)	EN	This fish is known from five locations in northeastern Tunisia only (Freyhof & Ford, 2022b), between the Meliane River south of Tunis to tributaries of the Sebkha Kelbia intermittent lake in Souss Governorate, including the Abid and Lebna rivers on the Cape Bon Peninsula. It prefers low altitude, slow-moving stretches of rivers and tributaries. It is unclear whether it has successfully colonised the numerous artificial reservoirs created by dam construction within its range. Major threats include pollution, excessive abstraction of ground and surface water, and dam construction	Not reported	Likely if presence confirmed	Low
<i>Thorectes puncticollis</i>	EN	This insect has a distribution restricted to sandy soils with xerothermic scrublands at low altitudes in Algeria, Tunisia and Libya. In Tunisia, it has been recently reported from new localities in Sousse, Sfax, Kairouan and Tataouine. Historical records from Tunis correspond to a subpopulation which have probably	Not reported	Likely if presence confirmed	Low

Species	IUCN status	Distribution	Presence in Project area	Potential CH trigger	Risk of significant impacts from project
		disappeared, due to the expansion of the city (IUCN)			
Blanc's Fringe-toed Lizard (<i>Acanthodactylus blanci</i>)	EN	This lizard is known from coastal, and some inland, regions of northwestern and northeastern Tunisia, and northern Algeria, between sea level up to 900 m asl. It is found in semi-arid habitats with open vegetation, at coastal sites, in dunes with plant growth, and in areas of clay substrate with shrubs or sparse Eucalyptus plantations. It has also been recorded from pine forests.	Not reported	Likely if presence confirmed	Low
North African Shad (<i>Alosa algeriensis</i>)	EN	This fish is anadromous ⁷ fish is endemic to Northern Africa and Western Sardinia coasts, including coastal lagoons and rivers. Some unconfirmed subpopulations might be landlocked residents of artificial freshwater lakes (Freyhof & Ford, 2022b).	Not reported	Likely if presence confirmed	Low
Collybie méditerranéenne (<i>Laccariopsis mediterranea</i>)	EN	Rare fungus growing in coastal dune habitats in the western Mediterranean, including Sicily (usually their habitats are Natura 2000 sites 'Coastal dunes with Juniperus spp')	Unknown	Likely if presence confirmed	Low

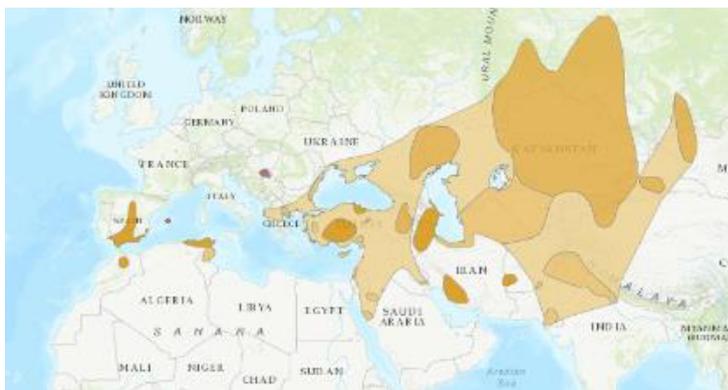


Figure 4.1: Distribution and image of the White-headed Duck (Source: IUCN)

⁷ A fish migrating up rivers from the sea to spawn. The opposite of catadromous.



Figure 4.2 : On the left image of the Egyptian Vulture (source: www.oiseaux.net); on the right track of two Egyptian Vultures passing through Cap Bon Peninsula on their migration between Tunisia and Sicily (source: <https://flightforsurvival.org/fr/update-egyptian-vultures-sara-tobia-reach-african-skies/>)



Figure 4.3 : Saker Falcon on the left, Red-footed Falcon on the right (source of both images: www.ebird.org)

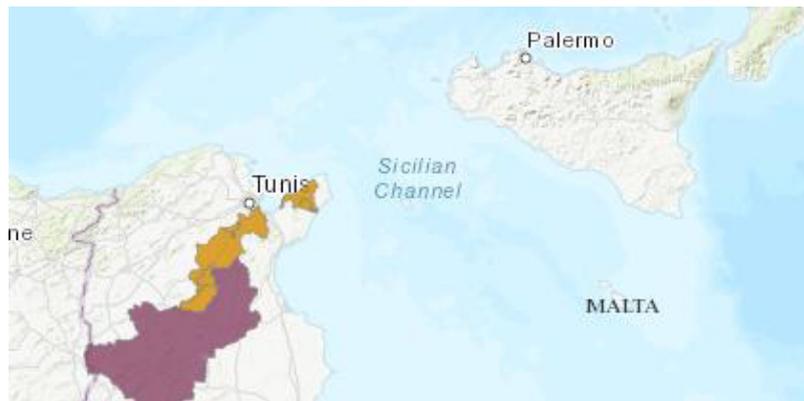


Figure 4.4 : Known distribution of the Tunisian Bleak (orange: present, purple: possibly present). Source: IUCN Red List

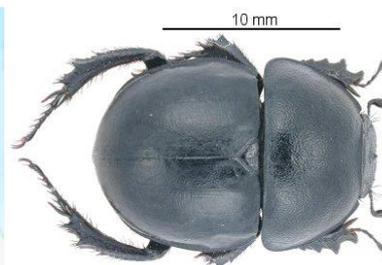


Figure 4.5 : Known distribution and image of *Thorectes puncticollis*. Sources: IUCN Red List (left) and http://jcringenbach.free.fr/website/beetles/scarabaeidae/Thorectes_puncticollis.htm (right)

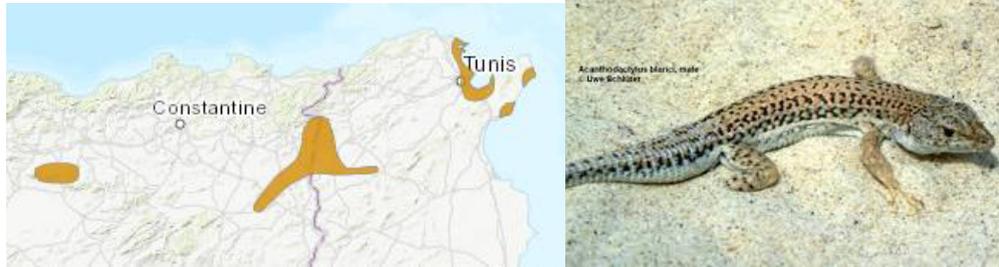


Figure 4.6 : Known distribution and image of *Acanthodactylus blanci*. Sources: IUCN Red List (left) and <https://reptile-database.reptarium.cz/species?genus=Acanthodactylus&species=blanci> (right)



Figure 4.7 : Potential distribution of *Laccariopsis mediterranea*'s (Source of image: www.mycodb.fr)

4.1.2 Protected areas and key biodiversity areas (PA/KBA)

PA/KBA located around Zone 2 are presented in the table below.

Table 4.2: PA/KBA located around Zone 2 (Onshore Tunisia, underground cables)

Name	Type	Summary	Distance from Project
Barrage Mlâabi	Wetland of National Importance (Ramsar) and Important Bird Area (IBA)	98 ha freshwater storage area on the Cap Bon peninsula constructed mainly for ground water recharge, serving today for irrigation. It supports several populations of waterbirds migrating between Africa and Eurasia, as well as Endangered (EN) White-headed Duck (<i>Oxyura leucocephala</i> , up to 32 individuals) and Vulnerable (VU) Marbled Teal (<i>Marmaronetta angustirostris</i>).	< 1 km (station is located 270m from the dam)

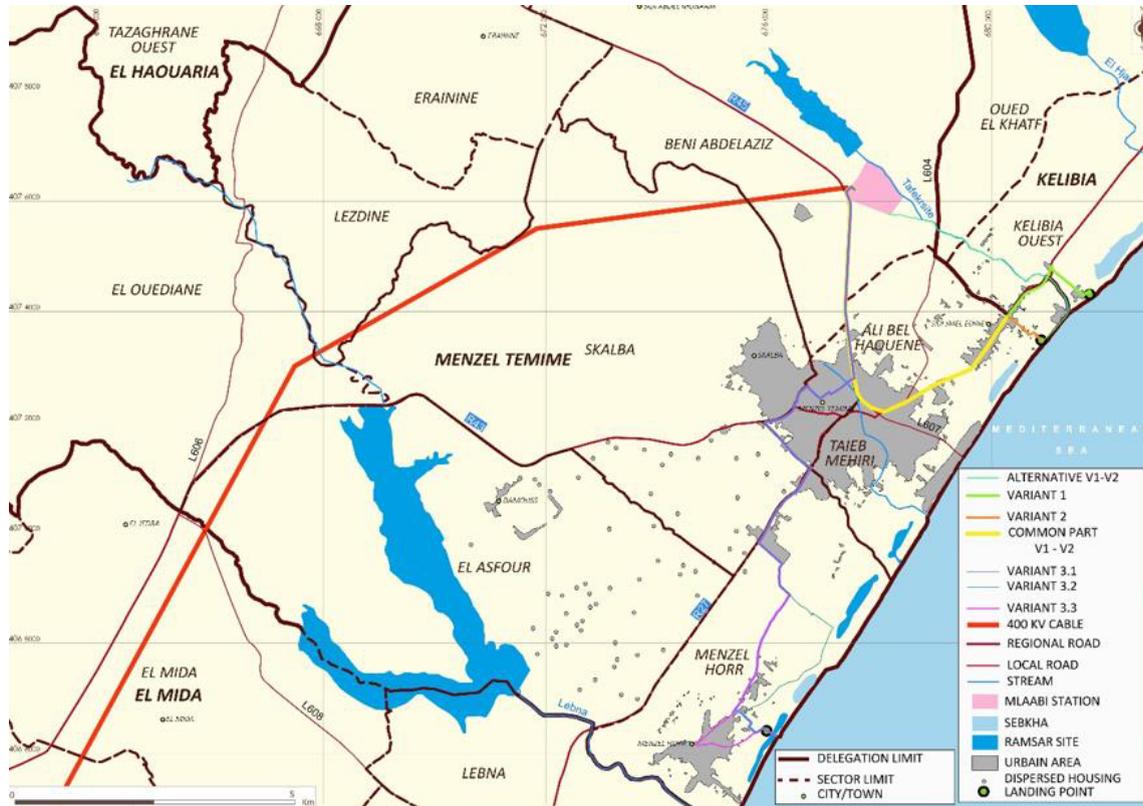


Figure 4.8: Barrage Mlâabi and proximity to the Mlâabi station

5. ZONE 3 – NEARSHORE TUNISIA

5.1 Biodiversity significance

5.1.1 Species of conservation importance

High priority species for Zone 3 are presented in the table below.

Table 5.1- Species of conservation importance (Nearshore Tunisia)

Species	IUCN status	Distribution	Presence in the Project area	Potential trigger	CH	Risk of significant impacts from project
Loggerheadn turtle (<i>Caretta caretta</i>)	VU	Most common sea turtle in the Mediterranean. It is known to nest from Northeastern Tunisia (late June-early July)	Confirmed but no records during project studies	Unlikely		Low
Common Bottlenose Dolphin (<i>Tursiops truncatus</i>)	VU*	Widely distributed throughout the Mediterranean. A resident population is known in Cap Bon Peninsula waters (Kélibia IMMA).	Confirmed from Kélibia IMMA ⁸ but no records during project studies	Unlikely		Medium

**in the Mediterranean. At global level this species is listed as of Least Concern (LC)*

Other marine species (sea turtles, sharks, rays, guitarfish, dolphins, etc) that are threatened according to the IUCN Red List have the potential to be found in the shallow waters around the Project area (see full list contained in the IBAT Report in Appendix 3). Most of these species are found around the Mediterranean and beyond (some have global distributions) but they are threatened due to illegal killing and other human related threats⁹. The presence of these species around the project area cannot be excluded.

The North African Shad (*Alosa algeriensis*, EN) is an anadromous¹⁰ fish endemic to Northern Africa and Western Sardinia's coasts, including coastal lagoons and rivers (Freyhof & Ford, 2022b). Two other species, Fan Mussel (*Pinna nobilis*, CR) and Mediterranean Pillow Coral (*Cladocora caespitosa*, EN) are endemic to the Mediterranean Sea at low depths. The presence of these species cannot be excluded from the project area but the risk of significant impacts from the project is considered low.

⁸ <https://www.marinemammalhabitat.org/wp-content/uploads/imma-factsheets/Mediterranean/Kelibia-Mediterranean.pdf>

⁹ Among these species, the Common Dolphin (*Delphinus delphi*, EN in the Mediterranean), the Striped Dolphin (*Stenella coeruleoalba*, VU in the Mediterranean) and the Fin Whale (*Balaenoptera physalus*, EN in the Mediterranean) were recorded from Capo San Marco and Capo Feto by the Italian National Centre for Research (CNR) in 2013 (RINA & COMETE, 2021)

¹⁰ A fish migrating up rivers from the sea to spawn. The opposite of catadromous.



Figure 5.1: Loggerhead Turtle (*Caretta caretta*) on the left, Common Bottlenose Dolphin (*Tursiops truncatus*) on the right. Source of both images: IUCN Red List.



Figure 5.2: Known distribution of the North African Shade (red=extinct). Source: IUCN Red List)

5.1.2 Protected areas and key biodiversity areas (PA/KBA)

The Tunisian nearshore portion of the project (marine cables) partially overlaps with the Kélibia Important Marine Mammal Area (IMMA), a 6000 km² area located around the north-eastern Cap Bon (see Figure 5.3). IMMAs are “discrete portions of habitat, important to marine mammal species, that have the potential to be delineated and managed for conservation”¹¹ which are identified via an initiative of the Marine Mammal Protected Areas Task Force¹². The Kélibia IMMA is considered to support a resident population of the Vulnerable Mediterranean Common Bottlenose Dolphin (*Tursiops truncatus*), which is impacted by intensive fishing in the area¹³.

The marine cable crosses the Sicilian Channel Ecologically or Biologically Significant Marine Areas (EBSA), considered of high importance given its diversity of geomorphological and ecological features.

¹¹ <https://www.marinemammalhabitat.org/immas/>

¹² The Marine Mammal Protected Areas Task Force (MMPATF) was created in 2013 by the International Committee on Marine Mammal Protected Areas (ICMMPA), the International Union for the Conservation of Nature’s (IUCN) World Commission on Protected Areas (WCPA) Marine Vice Chair, and members of the IUCN’s Species Survival Commission (SSC) to help support a stronger global profile and to provide a stronger voice for the MMPA constituency within IUCN.

¹³ <https://www.marinemammalhabitat.org/wp-content/uploads/imma-factsheets/Mediterranean/Kelibia-Mediterranean.pdf>

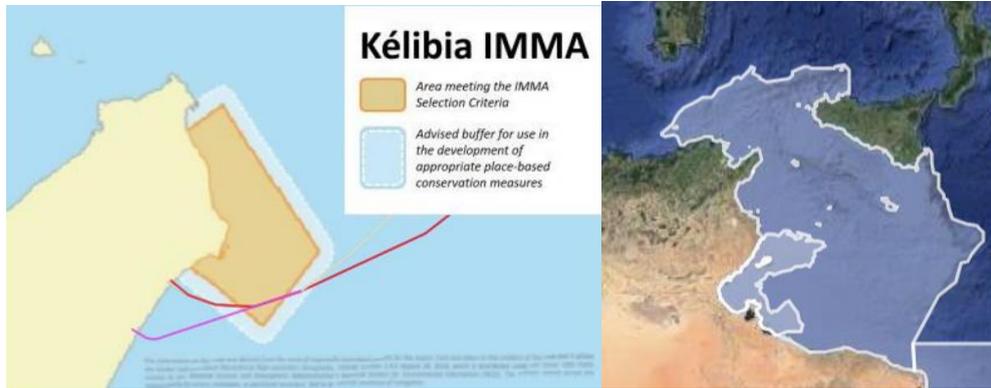


Figure 5.3: On the left the Kélibia Important Marine Mammal Area (IMMA) and overlap with the marine cable in nearshore waters of Tunisia (Source: Rina & COMETE, 2021). Note the red line is considered to be the most up-to-date cable route. On the right the Sicilian Channel EBSA (Source: <https://www.cbd.int/ebsa/>).

6. ZONE 4 – OFFSHORE AREAS

6.1 Biodiversity significance

6.1.1 Species of conservation importance

Various marine species (sharks, rays, guitarfish, dolphins, etc.) that are threatened according to the IUCN Red List have the potential to be found in the deep waters around the Project area. The full list contained in the IBAT Report is provided in Appendix 3. Most of these species are found around the Mediterranean and beyond (some have global distributions) but they are threatened due to illegal killing and other human related. Their presence around the project area cannot be excluded.

6.1.2 Protected areas and key biodiversity areas (PA/KBA)

The Project crosses the Sicilian Channel Ecologically or Biologically Significant Marine Areas (EBSA)¹⁴, considered of high importance given its diversity of geomorphological and ecological features due to an exchange of water masses and organisms between the west and east Mediterranean basins. Among the key biodiversity features to be noted (RINA and COMETE, 2021):

- Habitat types: seamounts, deep-sea corals, seagrass beds (as shallow depths)
- Spawning areas for various fish species, e.g. red mullet, bluefin tuna, swordfish, anchovy
- Nursery areas for various species, e.g. the White shark (*Rostroraja alba*, EN)
- Feeding areas for various seabirds, e.g. Scopoli's shearwater (*Calonectris diomedea*, LC), Yelkouan shearwater (*Puffinus yelkouan*, VU), the Mediterranean subspecies of Storm-petrel (*Hydrobates pelagicus melitensis*, LC)
- Possibly the last important habitat for the Critically Endangered (CR) Maltese skate (*Leucoraja melitensis*)



Figure 6.1: Overview of Mediterranean EBSAs (left) and zoom on the Sicilian Channel EBSA (right). Source: <https://www.cbd.int/ebsa/>

¹⁴ <https://www.cbd.int/ebsa/>

7. REFERENCES

ATECMA (Asesores Técnicos de Medio Ambiente) ECOTONO (Equipo Consultor en Turismo y Desarrollo), 2012, Mise en place d'un réseau écotouristique d'espaces naturels dans des pays méditerranéens d'Afrique du nord, Diagnostic Parc National Jebel Zaghouan – available at http://www.environnement.gov.tn/images/fichiers/projet_etude/ecotourisme/Diagnostic_PNJZ.pdf

Bennun, L., van Bochove, J., Ng, C., Fletcher, C., Wilson, D., Phair, N., Carbone, G. (2021). Mitigating biodiversity impacts associated with solar and wind energy development. Guidelines for project developers. Gland, Switzerland: IUCN and Cambridge, UK: The Biodiversity Consultancy

BirdLife International (2022) IUCN Red List for birds

Freyhof, J. & Ford, M. 2022a. *Anaocypris punica*. The IUCN Red List of Threatened Species 2022: e.T61355A145043722. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T61355A145043722.en>

Freyhof, J. & Ford, M. 2022b. *Alosa algeriensis*. The IUCN Red List of Threatened Species 2022: e.T135644A137217617. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T135644A137217617.en>

Freyhof, J. & Ford, M. 2022c. *Tropidophoxinellus chaignoni*. The IUCN Red List of Threatened Species 2022: e.T144643181A144655098. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T144643181A144655098.en>

Kersting, D. et al. 2019. *Pinna nobilis*. The IUCN Red List of Threatened Species 2019: e.T160075998A160081499. <http://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T160075998A160081499.en>

Martín Martín, J., Barrios, V., Clavero Sousa, H. et Garrido López, J.R. (2019). Les oiseaux et les réseaux électriques en Afrique du Nord. Guide pratique pour l'identification et la prévention des lignes électriques dangereuses. UICN Gland, Suisse et Malaga, Espagne. xvi + 272 pp.

Oréade-Brèche, 2021, Étude des moteurs de la perte de biodiversité et des secteurs clés impactant la biodiversité en Tunisie - Les lacunes de connaissances sur la biodiversité en Tunisie

RINA – COMETE, 2021, Marine Feasibility Studies for Tunisia-Italy Power Interconnector DTS Report

Westrip, J.R.S. et al. 2022. *Neophron percnopterus*. The IUCN Red List of Threatened Species 2022: e.T22695180A210524057. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T22695180A210524057.en>

Westrip, J.R.S. & BirdLife International. 2022a. *Falco cherrug*. The IUCN Red List of Threatened Species 2022: e.T22696495A209774770. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T22696495A209774770.en>

Westrip, J.R.S. & BirdLife International. 2022b. *Falco vespertinus*. The IUCN Red List of Threatened Species 2022: e.T22696432A210516159. <https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T22696432A210516159.en>

World Bank, 2018, Environmental & Social Framework for IPF Operations, ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources – available at <https://thedocs.worldbank.org/en/doc/837721522762050108-0290022018/original/ESFFramework.pdf#page=81&zoom=80>. Guidance Note 6 available at <https://documents1.worldbank.org/curated/en/924371530217086973/ESF-Guidance-Note-6-Biodiversity-Conservation-English.pdf>

Websites:

<https://lapresse.tn/90282/oiseaux-migrateurs-quand-le-cap-bon-chasse-ses-oiseaux-jusqua-lextinction/>



ELMED Etudes SARL

Contractor Doc No: Annex A

Date
2023-01-23

Page 28 of 37

<https://northafricanbirds.wordpress.com/category/tunisia/>

<https://ramsar.org/fr/zone-humide/tunisie>

<https://www.ornithomedia.com/magazine/etudes/synthese-suivi-migration-cap-bon-tunisie-4-avril-1er-mai-2003-01819/>

<https://www.alkitab.tn/livre/9791032002599-la-grande-nacre-de-mediterranee-pinna-nobilis-un-coquillage-bivalve-plein-de-noblesse-nardo-vicente/>

<https://thedocs.worldbank.org/en/doc/837721522762050108-0290022018/original/ESFFramework.pdf#page=81&zoom=80>

<https://documents1.worldbank.org/curated/en/924371530217086973/ESF-Guidance-Note-6-Biodiversity-Conservation-English.pdf>

<https://www.cbd.int/ebsa/>

<https://www.marinemammalhabitat.org/immas/>

<https://www.marinemammalhabitat.org/imma-eatlas/>

<http://datazone.birdlife.org/species/factsheet/egyptian-vulture-neophron-percnopterus/text>

<http://datazone.birdlife.org/species/factsheet/white-headed-duck-oxyura-leucocephala>

<https://flightforsurvival.org/fr/update-egyptian-vultures-sara-tobia-reach-african-skies/>

<https://portals.iucn.org/library/efiles/documents/2021-004-En.pdf>

<https://portals.iucn.org/library/efiles/documents/2019-032-Fr.pdf>

<https://ebird.org/home>

<https://www.keybiodiversityareas.org/site/factsheet/31736>

    	<p>Contractor Doc No: Annex A</p>	<p>Date 2023-01-23</p>	<p>Page 29 of 37</p>
			

Appendix 1 – Original IBAT report

Integrated Biodiversity Assessment Tool

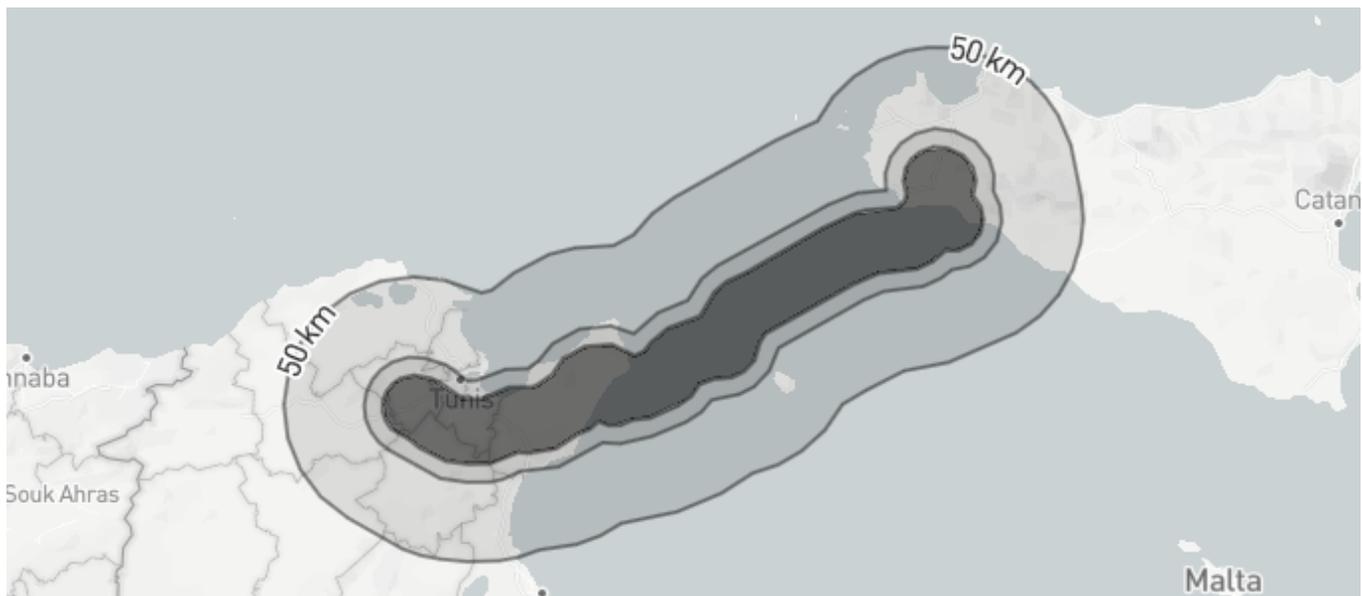
World Bank Group Biodiversity Risk Screen

OVERALL_PR_BUFFER_15KM

- **Country:** Tunisia
- **Location:** [37, 11.5]
- **IUCN Red List Biomes:** Marine, Freshwater, Terrestrial
- **Created by:** Monica Agostinone

Overlaps with:

Protected Areas	1 km: 27	10 km: 19	50 km: 100	146
World Heritage (WH)	1 km: 0	10 km: 0	50 km: 1	1
Key Biodiversity Areas	1 km: 17	10 km: 6	50 km: 15	38
Alliance for Zero Extinction (AZE)	1 km: 0	10 km: 0	50 km: 0	0
IUCN Red List				83
Critical Habitat				Likely



Displaying project location and buffers: 1 km, 10 km, 50 km



This report is based on IFC Performance Standard 6 (PS6) but applies to World Bank Environmental and Social Standard 6 (ESS6)

About this report

The recommendations stated alongside any Protected Areas and Key Biodiversity Areas identified in this report are determined by the following:

Protected Areas:

- 'Highest risk. Seek expert help' is stated if the report identifies a designation that includes either 'natural' or 'mixed world heritage site'.
- 'Assess for Critical Habitat' is stated if the report identifies a Strict Nature Reserve, Wilderness Area or National Park as coded by IUCN protected area categories Ia, Ib and II.
- 'Assess for biodiversity risk' is stated if the report identifies any other type of protected area.

Key Biodiversity Areas:

- 'Highest risk. Seek expert help' is stated if the report identifies an Alliance for Zero Extinction site.
- 'Assess for Critical Habitat' is stated if the report identifies Critically Endangered or Endangered species OR species with restricted ranges OR congregatory species as coded in the IUCN Red List of Threatened Species.
- 'Assess for biodiversity risk' is stated if the report identifies any other type of Key Biodiversity Area.

IBAT provides initial screening for Critical Habitat values. Performance Standard 6 (PS6) defines these values for Critical Habitat (PS6: para. 16) and legally protected and internationally recognized areas (PS6: para. 20). PS6 will be triggered when IFC client activities are located in modified habitats containing "significant biodiversity value," natural habitats, Critical Habitats, legally protected areas, or areas that are internationally recognized for biodiversity. References to PS6 and Guidance Note 6 (GN6) are provided to guide further assessment and detailed definitions where necessary. Please see <https://www.ifc.org/ps6> for full details on PS6 and GN6.

This report identifies restricted range species according to the KBA Standard definition (hyperlink KBA Standard <https://portals.iucn.org/library/sites/library/files/documents/2016-048.pdf>):

Species having a global range size less than or equal to the 25th percentile of range-size distribution in a taxonomic group within which all species have been mapped globally, up to a maximum of 50,000 km². If all species in a taxonomic group have not been mapped globally, or if the 25th percentile of range-size distribution for a taxonomic group falls below 10,000 km², restricted range should be defined as having a global range size less than or equal to 10,000 km². For coastal, riverine and other species with linear distributions that do not exceed 200 km width at any point, restricted range is defined as having a global range less than or equal to 500 km linear geographic span (i.e. the distance between occupied locations furthest apart).

Note, sites supporting restricted range species can qualify as KBAs under criterion B2. These are sites that hold a significant proportion of the global population size of multiple restricted-range species, and so contribute significantly to the global persistence of biodiversity at the genetic and species level.

The report screens for known risks within a standard 50km buffer of the coordinates used for analysis. This buffer is not intended to indicate the area of impact. The report can be used to:

- Scope risks to include within an assessment of risks and impacts

- Identify gaps within an existing assessment of risks and impacts
- Prioritize between sites in a portfolio for further assessment of risks and impacts
- Inform a preliminary determination of Critical Habitat
- Assess the need for engaging a biodiversity specialist
- Identify additional conservation experts or organizations to inform further assessment or planning

WARNING: IBAT aims to provide the most up-to-date and accurate information available at the time of analysis. There is however a possibility of incomplete, incorrect or out-of-date information. All findings in this report must be supported by further desktop review, consultation with experts and/or on-the-ground field assessment as described in PS6 and GN6. Please consult IBAT for any additional disclaimers or recommendations applicable to the information used to generate this report.

Please note, sensitive species data are currently not included in IBAT reports in line with the [Sensitive Data Access Restrictions Policy for the IUCN Red List](#). This relates to sensitive Threatened species and KBAs triggered by sensitive species.

Legal disclaimer

The Integrated Biodiversity Assessment Tool (IBAT) and IBAT products, which include the IBAT Portal, reports, and data, are owned by IBAT Alliance and accessible by paid subscription.

The IBAT and IBAT products may contain reference to or include content owned and provided by the International Bank for Reconstruction and Development (“IBRD”), the International Development Association (“IDA”), the International Finance Corporation (“IFC”), the Multilateral Investment Guarantee Agency (“MIGA”), and the International Center for Settlement of Investment Disputes (“ICSID”) (collectively, the “World Bank Group” or “WBG”, individually, the “WBG Member”). The content owned and provided by the WBG Members (the “Member Content”) is the respective property of the WBG Member and is protected under general principles of copyright.

The use of Member Content in IBAT and IBAT products is under license and intended for informational purposes only. Such use is not intended to constitute legal, securities, or investment advice, an opinion regarding the appropriateness of any investment, or a solicitation of any type. Additionally, the information is provided on a strictly “as-is” basis, without any assurance or representation of any kind.

The WBG Member does not guarantee the accuracy, reliability or completeness of any Member Content included in IBAT or IBAT products or for the conclusions or judgments described therein. The WBG Member accepts no responsibility or liability for any omissions or errors (including, without limitation, typographical errors and technical errors) in any Member Content whatsoever or for reliance thereon. The boundaries, colors, denominations, and other information shown on any map in IBAT do not imply any judgment on the part of WBG Member concerning the legal status of any territory or the endorsement or acceptance of such boundaries. The findings, interpretations, and conclusions expressed in the IBAT and the IBAT products do not necessarily reflect the views of the WBG Member, its member countries, Executive Directors, or the governments it represents.

The WBG Members are international organizations established under their respective constituent agreement among their member countries. IBRD owns the WBG logos and trademark. The logos and other trademarks, service marks,



graphics of a WBG Member are the tradenames, trademarks or registered trademarks of that WBG Member (the “WBG Member Mark”). The WBG logo and trademark and WBG Member Marks may not be copied, imitated, or used, in whole or in part, without the prior written permission of WBG or its Members, as appropriate. All other queries on rights and licenses, including subsidiary rights, should be addressed as follows. If to IFC, to IFC’s Corporate Relations Department, 2121 Pennsylvania Avenue, N.W., Washington, D.C. 20433. If to MIGA, to MIGA’s Legal Affairs and Claims Group (Attn: Chief Counsel, Operations & Policy), 1818 H Street N.W., U12-1204, Washington, D.C. 20433. If to IBRD and/or IDA, to the Office of the Publisher, The World Bank, 1818 H Street N.W., Washington, D.C. 20433; Email: pubrights@worldbank.org

Priority Species

Habitat of significant importance to priority species will trigger Critical Habitat status (See PS6: para 16). IBAT provides a preliminary list of priority species that could occur within the 50km buffer. This list is drawn from the IUCN Red List of Threatened Species (IUCN RL). This list should be used to guide any further assessment, with the aim of confirming known or likely occurrence of these species within the project area. It is also possible that further assessment may confirm occurrence of additional priority species not listed here. It is strongly encouraged that any new species information collected by the project be shared with species experts and/or IUCN wherever possible in order to improve IUCN datasets.

IUCN Red List of Threatened Species - CR & EN

The following species are potentially found within 50km of the area of interest. For the full IUCN Red List please refer to the associated csv in the report folder.

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Acipenser sturio	European Sturgeon	ACTINOPTERYGII	CR	Decreasing	Marine, Freshwater
Carcharias taurus	Sand Tiger Shark	CHONDRICHTHYES	CR	Decreasing	Marine
Squatina squatina	Angelshark	CHONDRICHTHYES	CR	Decreasing	Marine
Galeorhinus galeus	Tope	CHONDRICHTHYES	CR	Decreasing	Marine
Sphyrna mokarran	Great Hammerhead	CHONDRICHTHYES	CR	Decreasing	Marine
Aetomylaeus bovinus	Duckbill Eagle Ray	CHONDRICHTHYES	CR	Decreasing	Marine
Anguilla anguilla	European Eel	ACTINOPTERYGII	CR	Decreasing	Marine, Freshwater
Anaocypris punica	Punican Bleak	ACTINOPTERYGII	CR	Decreasing	Freshwater
Leucoraja melitensis	Maltese Skate	CHONDRICHTHYES	CR	Decreasing	Marine

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Squatina aculeata</i>	Sawback Angelshark	CHONDRICHTHYES	CR	Decreasing	Marine
<i>Squatina oculata</i>	Smoothback Angelshark	CHONDRICHTHYES	CR	Decreasing	Marine
<i>Rhinobatos rhinobatos</i>	Common Guitarfish	CHONDRICHTHYES	CR	Decreasing	Marine
<i>Cermeuella amanda</i>		GASTROPODA	CR	Unknown	Terrestrial
<i>Rhinoptera marginata</i>	Lusitanian Cownose Ray	CHONDRICHTHYES	CR	Decreasing	Marine
<i>Myliobatis aquila</i>	Common Eagle Ray	CHONDRICHTHYES	CR	Decreasing	Marine
<i>Brassica macrocarpa</i>		MAGNOLIOPSIDA	CR	Stable	Terrestrial
<i>Serapias stenopetala</i>	Sérapias à Pétales Étroits	LILIOPSIDA	CR	Decreasing	Terrestrial, Freshwater
<i>Epilobium numidicum</i>	Epilobe de Numidie	MAGNOLIOPSIDA	CR	Decreasing	Terrestrial, Freshwater
<i>Rumex tunetanus</i>	Patience de Tunisie	MAGNOLIOPSIDA	CR	Decreasing	Terrestrial, Freshwater
<i>Charpentieria spezialensis</i>		GASTROPODA	CR	Unknown	Terrestrial
<i>Charpentieria crassicostata</i>		GASTROPODA	CR	Decreasing	Terrestrial
<i>Puccinellia gussonei</i>		LILIOPSIDA	CR	Unknown	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Nomada siciliensis		INSECTA	CR	Unknown	Terrestrial
Numenius tenuirostris	Slender-billed Curlew	AVES	CR	Decreasing	Terrestrial, Marine, Freshwater
Puffinus mauretanicus	Balearic Shearwater	AVES	CR	Decreasing	Terrestrial, Marine
Decorana drepanensis	Trapani Bush-cricket	INSECTA	CR	Decreasing	Terrestrial
Uromenus riggioi	Riggio's Saddle Bush-cricket	INSECTA	CR	Decreasing	Terrestrial
Isoetes todaroana	Sicilian Quillwort	LYCOPODIOPSIDA	CR	Decreasing	Terrestrial, Freshwater
Sorbus busambarensis		MAGNOLIOPSIDA	CR	Unknown	Terrestrial
Ptilostemon greuteri		MAGNOLIOPSIDA	CR	Stable	Terrestrial
Glaucostegus cemiculus	Blackchin Guitarfish	CHONDRICHTHYES	CR	Decreasing	Marine
Pinna nobilis	Fan Mussel	BIVALVIA	CR	Decreasing	Marine
Carcharhinus plumbeus	Sandbar Shark	CHONDRICHTHYES	EN	Decreasing	Marine
Cetorhinus maximus	Basking Shark	CHONDRICHTHYES	EN	Decreasing	Marine
Chelonia mydas	Green Turtle	REPTILIA	EN	Decreasing	Terrestrial, Marine

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Mustelus mustelus	Common Smoothhound	CHONDRICHTHYES	EN	Decreasing	Marine
Cornu mazzullii		GASTROPODA	EN	Decreasing	Terrestrial
Centrophorus uyato	Little Gulper Shark	CHONDRICHTHYES	EN	Decreasing	Marine
Echinorhinus brucus	Bramble Shark	CHONDRICHTHYES	EN	Decreasing	Marine
Calopteryx exul	Glittering Demoiselle	INSECTA	EN	Decreasing	Terrestrial, Freshwater
Rostroraja alba	White Skate	CHONDRICHTHYES	EN	Decreasing	Marine
Acanthodactylus blanci	Blanc's Fringe-toed Lizard	REPTILIA	EN	Decreasing	Terrestrial
Oxynotus centrina	Angular Roughshark	CHONDRICHTHYES	EN	Decreasing	Marine
Gymnura altavela	Spiny Butterfly Ray	CHONDRICHTHYES	EN	Decreasing	Marine
Cladocora caespitosa	Mediterranean Pillow Coral	ANTHOZOA	EN	Decreasing	Marine
Alosa algeriensis	North African Shad	ACTINOPTERYGII	EN	Decreasing	Marine, Freshwater
Ceruella rugosa		GASTROPODA	EN	Unknown	Terrestrial
Marmorana nebrodensis		GASTROPODA	EN	Unknown	Terrestrial
Raja radula	Rough Skate	CHONDRICHTHYES	EN	Decreasing	Marine

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Raja undulata</i>	Undulate Skate	CHONDRICHTHYES	EN	Decreasing	Marine
<i>Leucoraja circularis</i>	Sandy Skate	CHONDRICHTHYES	EN	Decreasing	Marine
<i>Tripolium sorrentinoi</i>		MAGNOLIOPSIDA	EN	Stable	Terrestrial
<i>Rumex algeriensis</i>	Renouée d'Algérie	MAGNOLIOPSIDA	EN	Unknown	Terrestrial, Freshwater
<i>Pilularia minuta</i>	Dwarf Pillwort	POLYPODIOPSIDA	EN	Decreasing	Freshwater
<i>Rhynchospora modesti-lucennoi</i>		LILIOPSIDA	EN	Decreasing	Freshwater
<i>Oxychilus fuscus</i>		GASTROPODA	EN	Unknown	Terrestrial
<i>Charpentieria eminens</i>		GASTROPODA	EN	Decreasing	Terrestrial
<i>Charpentieria leucophryna</i>		GASTROPODA	EN	Unknown	Terrestrial
<i>Charpentieria nobilis</i>		GASTROPODA	EN	Decreasing	Terrestrial
<i>Leopoldia gussonei</i>		LILIOPSIDA	EN	Decreasing	Terrestrial
<i>Pomatoschistus tortonesei</i>	Tortonese's Goby	ACTINOPTERYGII	EN	Unknown	Marine
<i>Allium agrigentinum</i>		LILIOPSIDA	EN	Unknown	Terrestrial
<i>Sphingonotus personatus</i>	Italian Sand Grasshopper	INSECTA	EN	Decreasing	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Ochrilidia sicula</i>	Sicilian Match Grasshopper	INSECTA	EN	Decreasing	Terrestrial
<i>Dociostaurus minutus</i>	Sicilian Cross-backed Grasshopper	INSECTA	EN	Decreasing	Terrestrial
<i>Balaenoptera physalus</i> Mediterranean subpopulation	Fin Whale	MAMMALIA	EN	Decreasing	Marine
<i>Physeter macrocephalus</i> Mediterranean subpopulation	Sperm Whale	MAMMALIA	EN	Decreasing	Marine
<i>Grampus griseus</i> Mediterranean subpopulation	Risso's Dolphin	MAMMALIA	EN	Decreasing	Marine
<i>Oxyura leucocephala</i>	White-headed Duck	AVES	EN	Decreasing	Terrestrial, Freshwater
<i>Neophron percnopterus</i>	Egyptian Vulture	AVES	EN	Decreasing	Terrestrial, Freshwater
<i>Falco cherrug</i>	Saker Falcon	AVES	EN	Decreasing	Terrestrial, Marine, Freshwater
<i>Neomarius gandolphii</i>		INSECTA	EN	Unknown	Terrestrial
<i>Calicnemis latreillei</i>		INSECTA	EN	Decreasing	Terrestrial
<i>Thorectes puncticollis</i>		INSECTA	EN	Decreasing	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Pterolepis elymica</i>	Sicilian Bush-cricket	INSECTA	EN	Decreasing	Terrestrial
<i>Rhynchostegium strongylense</i>		BRYOPSIDA	EN	Stable	Terrestrial
<i>Limonium poimenum</i>		MAGNOLIOPSIDA	EN	Unknown	Terrestrial
<i>Mobula mobular</i>	Spinetail Devil Ray	CHONDRICHTHYES	EN	Decreasing	Marine
<i>Brassica drepanensis</i>		MAGNOLIOPSIDA	EN	Decreasing	Terrestrial
<i>Tropidophoxinellus chaignoni</i>	Tunisian Bleak	ACTINOPTERYGII	EN	Decreasing	Freshwater
<i>Laccariopsis mediterranea</i>	Collybie méditerranéenne	AGARICOMYCETES	EN	Decreasing	Terrestrial
<i>Delphinus delphis</i> Inner Mediterranean subpopulation	Common Dolphin	MAMMALIA	EN	Decreasing	Marine
<i>Globicephala melas</i> Inner Mediterranean subpopulation	Long-finned Pilot Whale	MAMMALIA	EN	Decreasing	Marine

Restricted Range Species

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Acipenser sturio</i>	European Sturgeon	ACTINOPTERYGII	CR	Decreasing	Marine, Freshwater

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Cernuella amanda		GASTROPODA	CR	Unknown	Terrestrial
Brassica macrocarpa		MAGNOLIOPSIDA	CR	Stable	Terrestrial
Serapias stenopetala	Sérapias à Pétales Étroits	LILIOPSIDA	CR	Decreasing	Terrestrial, Freshwater
Rumex tunetanus	Patience de Tunisie	MAGNOLIOPSIDA	CR	Decreasing	Terrestrial, Freshwater
Charpentieria spezialensis		GASTROPODA	CR	Unknown	Terrestrial
Charpentieria crassicostata		GASTROPODA	CR	Decreasing	Terrestrial
Numenius tenuirostris	Slender-billed Curlew	AVES	CR	Decreasing	Terrestrial, Marine, Freshwater
Decorana drepanensis	Trapani Bush-cricket	INSECTA	CR	Decreasing	Terrestrial
Isoetes todaroana	Sicilian Quillwort	LYCOPODIOPSIDA	CR	Decreasing	Terrestrial, Freshwater
Sorbus busambarensis		MAGNOLIOPSIDA	CR	Unknown	Terrestrial
Ptilostemon greuteri		MAGNOLIOPSIDA	CR	Stable	Terrestrial
Cornu mazzullii		GASTROPODA	EN	Decreasing	Terrestrial
Acanthodactylus blanci	Blanc's Fringe-toed Lizard	REPTILIA	EN	Decreasing	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Ceruella rugosa		GASTROPODA	EN	Unknown	Terrestrial
Marmorana nebrodensis		GASTROPODA	EN	Unknown	Terrestrial
Tripolium sorrentinoi		MAGNOLIOPSIDA	EN	Stable	Terrestrial
Oxychilus fuscus		GASTROPODA	EN	Unknown	Terrestrial
Charpentieria eminens		GASTROPODA	EN	Decreasing	Terrestrial
Charpentieria leucophryna		GASTROPODA	EN	Unknown	Terrestrial
Charpentieria nobilis		GASTROPODA	EN	Decreasing	Terrestrial
Leopoldia gussonei		LILIOPSIDA	EN	Decreasing	Terrestrial
Allium agrigentinum		LILIOPSIDA	EN	Unknown	Terrestrial
Ochrilidia sicula	Sicilian Match Grasshopper	INSECTA	EN	Decreasing	Terrestrial
Dociostaurus minutus	Sicilian Cross-backed Grasshopper	INSECTA	EN	Decreasing	Terrestrial
Pterolepis elymica	Sicilian Bush-cricket	INSECTA	EN	Decreasing	Terrestrial
Rhynchostegium strongylense		BRYOPSIDA	EN	Stable	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Limonium poimenum		MAGNOLIOPSIDA	EN	Unknown	Terrestrial
Rupestrella homala		GASTROPODA	VU	Stable	Terrestrial
Acicula benoiti		GASTROPODA	VU	Unknown	Terrestrial
Rupestrella jaeckeli		GASTROPODA	VU	Stable	Terrestrial
Clytus clavicornis		INSECTA	VU	Unknown	Terrestrial
Cochlostoma paladilhianum		GASTROPODA	VU	Stable	Terrestrial
Larus audouinii	Audouin's Gull	AVES	VU	Decreasing	Terrestrial, Marine
Esarcus fiorii		INSECTA	VU	Unknown	Terrestrial
Tetratoma tedaldi		INSECTA	VU	Unknown	Terrestrial
Tessellana lagrecai	La Greca's Slender Bush-cricket	INSECTA	VU	Unknown	Terrestrial
Grammoptera viridipennis		INSECTA	VU	Stable	Terrestrial
Neopiciella sicula		INSECTA	VU	Stable	Terrestrial
Gagea chrysantha	Gagée dorée	LILIOPSIDA	VU	Unknown	Terrestrial
Gagea apulica	Gagée des Pouilles	LILIOPSIDA	VU	Decreasing	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
<i>Thanasimodes dorsalis</i>		INSECTA	VU	Unknown	Terrestrial
<i>Schileykiella reinae</i>		GASTROPODA	NT OR LR/NT	Unknown	Terrestrial
<i>Rupestrella rupestris</i>		GASTROPODA	NT OR LR/NT	Stable	Terrestrial
<i>Monacha gregaria</i>		GASTROPODA	NT OR LR/NT	Unknown	Terrestrial
<i>Schileykiella parlatoris</i>		GASTROPODA	NT OR LR/NT	Unknown	Terrestrial
<i>Platyla subdiaphana</i>		GASTROPODA	NT OR LR/NT	Unknown	Terrestrial
<i>Ropalopus siculus</i>		INSECTA	NT OR LR/NT	Unknown	Terrestrial
<i>Brassica rupestris</i>		MAGNOLIOPSIDA	NT OR LR/NT	Stable	Terrestrial
<i>Charpentieria septemPLICATA</i>		GASTROPODA	NT OR LR/NT	Stable	Terrestrial
<i>Oxychilus canini</i>		GASTROPODA	NT OR LR/NT	Unknown	Terrestrial
<i>Charpentieria tiberii</i>		GASTROPODA	NT OR LR/NT	Stable	Terrestrial
<i>Desmazeria sicula</i>		LILIOPSIDA	NT OR LR/NT	Unknown	Terrestrial
<i>Esarcus leprieuri</i>		INSECTA	NT OR LR/NT	Unknown	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Acinipe galvagnii	Galvagni's Stone Grasshopper	INSECTA	NT OR LR/NT	Unknown	Terrestrial
Tandonia marinellii		GASTROPODA	NT OR LR/NT	Stable	Terrestrial
Sphingonotus arenarius	Algerian Sand Grasshopper	INSECTA	NT OR LR/NT	Decreasing	Terrestrial
Marmorana globularis		GASTROPODA	LC OR LR/LC	Unknown	Terrestrial
Trochoidea caroni		GASTROPODA	LC OR LR/LC	Increasing	Terrestrial
Salvinia natans	Floating Fern	POLYPODIOPSIDA	LC OR LR/LC	Decreasing	Freshwater
Cochlostoma alleryanum		GASTROPODA	LC OR LR/LC	Stable	Terrestrial
Deroceras panormitanum		GASTROPODA	LC OR LR/LC	Stable	Terrestrial
Charpentieria calcarae		GASTROPODA	LC OR LR/LC	Stable	Terrestrial
Oxychilus egadiensis		GASTROPODA	LC OR LR/LC	Stable	Terrestrial
Oxychilus perspectivus		GASTROPODA	LC OR LR/LC	Stable	Terrestrial
Pyrus siccanorum		MAGNOLIOPSIDA	LC OR LR/LC	Unknown	Terrestrial
Melanargia pherusa	Sicilian Marbled White	INSECTA	LC OR LR/LC	Stable	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Orchis brancifortii	Branciforti's Orchid	LILIOPSIDA	LC OR LR/LC	Stable	Terrestrial
Palaemonetes antennarius		MALACOSTRACA	LC OR LR/LC	Unknown	Freshwater
Prospero fallax		LILIOPSIDA	LC OR LR/LC	Unknown	Terrestrial
Chorthippus trinacriae	Sicilian Lesser Grasshopper	INSECTA	LC OR LR/LC	Unknown	Terrestrial
Curruca sarda	Marmora's Warbler	AVES	LC OR LR/LC	Stable	Terrestrial
Platycleis concii	Sicilian Grey Bush-cricket	INSECTA	LC OR LR/LC	Unknown	Terrestrial
Tudorella panormitana		GASTROPODA	LC OR LR/LC	Stable	Terrestrial
Quercus congesta		MAGNOLIOPSIDA	LC OR LR/LC	Stable	Terrestrial
Sorbus graeca		MAGNOLIOPSIDA	LC OR LR/LC	Unknown	Terrestrial
Allium vernale		LILIOPSIDA	LC OR LR/LC	Unknown	Terrestrial
Gerbillus jamesi	James's Gerbil	MAMMALIA	DD	Unknown	Terrestrial
Marmorana platychela		GASTROPODA	DD	Unknown	Terrestrial
Deroceras giustianum		GASTROPODA	DD	Unknown	Terrestrial

Species Name	Common Name	Taxonomic Group	IUCN Category	Population Trend	Biome
Cecilioides rizzeana		GASTROPODA	DD	Unknown	Terrestrial
Cecilioides petitiana		GASTROPODA	DD	Unknown	Terrestrial
Cecilioides actoniana		GASTROPODA	DD	Unknown	Terrestrial
Charpentieria incerta		GASTROPODA	DD	Unknown	Terrestrial
Cecilioides bourguignatiana		GASTROPODA	DD	Unknown	Terrestrial
Thymalus punicus		INSECTA	DD	Unknown	Terrestrial
Thorectes reflexus		INSECTA	DD	Unknown	Terrestrial
Heptaulacus pirazzolii		INSECTA	DD	Unknown	Terrestrial
Allium panormitanum		LILIOPSIDA	DD	Unknown	Terrestrial

Biodiversity features which are likely to trigger Critical Habitat

Protected Areas

The following protected areas are found within 1 km and 10 km and 50 km of the area of interest. For further details please refer to the associated csv file in the report folder.

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Barrage Lebna	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Barrage Lebna	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Barrage Mlaabi	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Barrage Mlaabi	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Barrage Sidi Abdelmoneem	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Barrage Sidi Abdelmoneem	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Barrage oued El Hjar	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Barrage oued El Hjar	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Boukornine	1 km	Not Assigned	Designated	National Park	Assess for biodiversity risk
Complesso Monti di Santa Ninfa - Gibellina e Grotta di Santa Ninfa	1 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Complexe des zones humides de barrage Ghédir El Golla et barrage El Mornaguia	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Complexe des zones humides de barrage Ghédir El Golla et barrage El Mornaguia	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Dar Chichou	1 km	Not Assigned	Designated	Faunal Reserve	Assess for biodiversity risk
Fondali di Capo San Marco - Sciacca	1 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Laghetti di Preola e Gorgi Tondi e Sciare di Mazara	1 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Lagheti di Preola e Gorghi Tondi, Sciare di Mazara e Pantano Leone	1 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Lagunes du Cap Bon oriental	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Lagunes du Cap Bon oriental	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Monte San Calogero (Sciacca)	1 km	Not Reported	Designated	Sites of Community Importance (Habitats Directive)	Assess for biodiversity risk
Riserva Naturale Foce Del Fiume Belice E Dune Limitrofe	1 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Integrale Lago Preola E Gorghi Tondi	1 km	la	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Riserva Naturale Integrale Grotta Di Santa Ninfa	1 km	la	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Sebkhata Soliman	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Sebkhata Soliman	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Sebkhet Sejoumi	1 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Sebkhet Sejoumi	1 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Sistema dunale Capo Granitola, Porto Palo e Foce del Belice	1 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Barrage oued Errmal	10 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Barrage oued Errmal	10 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Complesso Monte Telegrafo e Rocca Ficuzza	10 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Complexe lac de Tunis	10 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Complexe lac de Tunis	10 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Dj. Zaghouan	10 km	Not Assigned	Designated	National Park	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Foce del Fiume Verdura	10 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Jebel Hammamet	10 km	Not Assigned	Designated	Nature Reserve	Assess for biodiversity risk
Montagna Grande di Salemi	10 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Genuardo e Santa Maria del Bosco	10 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monti Sicani, Rocca Busambra e Bosco della Ficuzza	10 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Pantani di Anguillara	10 km	Not Reported	Designated	Sites of Community Importance (Habitats Directive)	Assess for biodiversity risk
Pantani di Anguillara	10 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Riserva Naturale Integrale Grotta Di Entella	10 km	la	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Riserva Naturale Orientata Monte S. Calogero (Kronio)	10 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Riserva Naturale Orientata Monte Genuardo E Santa Maria Del Bosco	10 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Rocche di Entella	10 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Rocche di Entella	10 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Sciare di Marsala	10 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Arcipelago delle Egadi - area marina e terrestre	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Area Naturale Marina Protetta Capo Gallo - Isola Delle Femmine	50 km	IV	Designated	Natural Marine Reserve and Natural Protected Marine Areas	Assess for biodiversity risk
Boschi Ficuzza e Cappelliere, Vallone Cerasa, Castagneti Mezzojuso	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Bosco di Calatafimi	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Bosco di S. Adriano	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Cala Rossa e Capo Rama	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Calanchi, lembi boschivi e praterie di Riena	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Capo San Vito, Monte Monaco, Zingaro, Faraglioni Scopello, Monte Sparacio	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Complesso Monte Bosco e Scorace	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Complesso Monti di Castellammare del Golfo (TP)	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Foce del Magazzolo, Foce del Platani, Capo Bianco, Torre Salsa	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Foce del Torrente Calatubo e dune	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Fondali del Golfo di Custonaci	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Fondali dell'Arcipelago delle Isole Egadi	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Fondali dell'isola dello Stagnone di Marsala	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Fondali dello Zingaro	50 km	Not Reported	Designated	Sites of Community Importance (Habitats Directive)	Assess for biodiversity risk
Fondali di Isola delle Femmine - Capo Gallo	50 km	Not Reported	Designated	Sites of Community Importance (Habitats Directive)	Assess for biodiversity risk
Fondali di Torre Salsa	50 km	Not Reported	Designated	Sites of Community Importance (Habitats Directive)	Assess for biodiversity risk
Grotte de Chauve souris d'El Haouaria	50 km	Not Assigned	Designated	Bird Reserve	Assess for biodiversity risk
Ichkeul	50 km	Not Applicable	Designated	UNESCO-MAB Biosphere Reserve	Assess for biodiversity risk
Ichkeul	50 km	Not Reported	Designated	National Park	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Ichkeul	50 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Ichkeul	50 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Ichkeul National Park	50 km	Not Applicable	Inscribed	World Heritage Site (natural or mixed)	Highest risk. Seek expert help
Isola di Favignana	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Isola di Levanzo	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Isola di Pantelleria - Area Costiera, Falesie e Bagno dell'Acqua	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Isola di Pantelleria e area marina circostante	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Isola di Pantelleria: Montagna Grande e Monte Gibe	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Isole dello Stagnone di Marsala	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	● Assess for biodiversity risk
Jardin botanique de Tunis	50 km	Not Assigned	Designated	Nature Reserve	● Assess for biodiversity risk
Lac Bizerte	50 km	Not Reported	Proposed	Nature Reserve	● Assess for biodiversity risk
Lac de Rades et Salines	50 km	Not Reported	Designated	Wetland Zone of National Importance	● Assess for biodiversity risk
Lago di Piana degli Albanesi	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	● Assess for biodiversity risk
Lagune de Ghar El Melh et delta de la medjerda	50 km	Not Reported	Designated	Wetland Zone of National Importance	● Assess for biodiversity risk
Lagune de Ghar El Melh et delta de la medjerda	50 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	● Assess for biodiversity risk
Maccalube di Aragona	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	● Assess for biodiversity risk
Marausa: Macchia a Quercus calliprinos	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	● Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Montagna Longa, Pizzo Montanello	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Bonifato	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Cammarata - Contrada Salaci	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Carcaci, Pizzo Colobria e ambienti umidi	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Cofano e Litorale	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Cofano, Capo San Vito e Monte Sparagio	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Monte Grifone	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte lato, Kumeta, Maganoce e Pizzo Parrino	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Monte lato, Kumeta, Maganoce e Pizzo Parrino	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Monte Matassaro, Monte Gradara e Monte Signora	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Matassaro, Monte Gradara e Monte Signora	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Monte Pecoraro e Pizzo Cirina	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Monte Pizzuta, Costa del Carpineto, Moarda	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Rose e Monte Pernice	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte San Giuliano	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte Triona e Monte Colomba	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Monte d'Indisi, Montagna dei Cavalli, Pizzo Pontorno e Pian del Leone	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Monti Barracù, Cardelia, Pizzo Cangialosi e Gole del Torrente Corleone	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Paludi di Capo Feto e Margi Spanò	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Paludi di Capo Feto e Margi Spanò	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Parco Nazionale Isola Di Pantelleria	50 km	II	Designated	National Park	Assess for critical habitat
Pizzo della Rondine, Bosco di S. Stefano Quisquina	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Raffo Rosso, Monte Cuccio e Vallone Sagana	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Riserva Naturale Bosco Di Alcamo	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Foce Del Fiume Platani	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Riserva Naturale Integrale Grotta Di Carburangeli	50 km	1a	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Riserva Naturale Integrale Grotta Di S. Angelo Muxaro	50 km	1a	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Riserva Naturale Integrale Macalube Di Aragona	50 km	1a	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Riserva Naturale Integrale Saline Di Trapani E Paceco	50 km	1a	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Riserva Naturale Marina Isole Egadi	50 km	IV	Designated	Natural Marine Reserve and Natural Protected Marine Areas	Assess for biodiversity risk
Riserva Naturale Orientata Bosco Della Ficuzza, Rocca Busambra, Bosco Del Cappelliere E Gorgo D	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Isola Di Pantelleria	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Bagni Di Cefala' Diania E Chiarastella	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Riserva Naturale Orientata Capo Rama	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Dello Zingaro	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Monte Cammarata	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Monte Carcaci	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Monte Cofano	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Monti Di Palazzo Adriano E Valle Del Sosio	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Serre Della Pizzuta	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Serre Di Ciminna	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Orientata Torre Salsa	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Riserva Naturale Regionale Delle Isole Dello Stagnone Di Marsala	50 km	IV	Designated	Regional/Provincial Nature Reserve	Assess for biodiversity risk
Riserva Naturale Regionale Grotta Dei Puntali	50 km	Ia	Designated	Regional/Provincial Nature Reserve	Assess for critical habitat
Rocca Busambra e Rocche di Rao	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Rocche di Castronuovo, Pizzo Lupo, Gurghi di S. Andrea	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Rocche di Ciminna	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Saline di Marsala	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Saline di Trapani	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Scala dei Turchi	50 km	Not Reported	Designated	Sites of Community Importance (Habitats Directive)	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Sebkhet Ariana	50 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Sebkhet Halk El Manzel et Oued Essed	50 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Sebkhet Halk El Manzel et Oued Essed	50 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Sebkhet Kourzia	50 km	Not Reported	Designated	Wetland Zone of National Importance	Assess for biodiversity risk
Serra del Leone e Monte Stagnataro	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Stagnone di Marsala e Saline di Trapani - area marina e terrestre	50 km	Not Reported	Designated	Special Protection Area (Birds Directive)	Assess for biodiversity risk
Trapani and Paceco salt ponds	50 km	Not Reported	Designated	Ramsar Site, Wetland of International Importance	Assess for biodiversity risk
Valle del Fiume Oreto	50 km	Not Reported	Designated	Special Areas of Conservation (Habitats Directive)	Assess for biodiversity risk
Zembra and Zembretta Iles	50 km	Not Reported	Designated	National Park	Assess for biodiversity risk

Area name	Distance	IUCN Category	Status	Designation	Recommendation
Zembra and Zembretta Iles	50 km	Not Applicable	Designated	UNESCO-MAB Biosphere Reserve	Assess for biodiversity risk
Zembra et Zembretta	50 km	Not Reported	Adopted	Specially Protected Areas of Mediterranean Importance (Barcelona Convention)	Assess for biodiversity risk
Îles Chîkly	50 km	Not Assigned	Designated	Nature Reserve	Assess for biodiversity risk

Key Biodiversity Areas

The following key biodiversity areas are found within 1 km and 10 km and 50 km of the area of interest. For further details please refer to the associated csv file in the report folder.

Area name	Distance	IBA	AZE	Recommendation
Aqueduc de Zaghouan	1 km	Yes	No	Assess for critical habitat
Barrage Bezikh	1 km	No	No	Assess for critical habitat
Barrage Chiba	1 km	No	No	Assess for critical habitat
Barrage Lebna	1 km	Yes	No	Assess for critical habitat
Barrage Masri	1 km	Yes	No	Assess for critical habitat

Area name	Distance	IBA	AZE	Recommendation
Barrage Mlaâbi	1 km	Yes	No	Assess for critical habitat
Barrage Mornaguia	1 km	Yes	No	Assess for critical habitat
Barrage Oued El Haajar	1 km	No	No	Assess for critical habitat
Barrage Sidi Abdelmonem	1 km	Yes	No	Assess for critical habitat
Dunes de Ras El Melan	1 km	No	No	Assess for critical habitat
Jbel Bou Kornine	1 km	No	No	Assess for biodiversity risk
Jbel Zaghouan	1 km	No	No	Assess for biodiversity risk
Lagune de Soliman	1 km	Yes	No	Assess for critical habitat
Lagunes de Korba	1 km	Yes	No	Assess for critical habitat
Mazarese wetlands	1 km	Yes	No	Assess for critical habitat
Sebkhet Sejoumi	1 km	Yes	No	Assess for critical habitat

Area name	Distance	IBA	AZE	Recommendation
Sicani mountains, Rocca Busambra and Ficuzza forest	1 km	Yes	No	Assess for critical habitat
Archipel de Zembra	10 km	Yes	No	Assess for critical habitat
Barrage Moussa Chami	10 km	No	No	Assess for critical habitat
Barrage Oued Rmal	10 km	No	No	Assess for critical habitat
Barrage Sidi Jdidi	10 km	No	No	Assess for critical habitat
Lac de Tunis	10 km	Yes	No	Assess for critical habitat
Lagunes de Maâmoura et Tazarka	10 km	No	No	Assess for critical habitat
Barrage El Ogla	50 km	No	No	Assess for critical habitat
Barrage Khairat	50 km	No	No	Assess for critical habitat
Barrage Moussa	50 km	No	No	Assess for critical habitat
Egadi islands	50 km	Yes	No	Assess for critical habitat

Area name	Distance	IBA	AZE	Recommendation
Garaet Mabtough	50 km	Yes	No	Assess for critical habitat
Ichkeul	50 km	Yes	No	Assess for critical habitat
Jbel Nadhour et Lagune de Ghar El Melh	50 km	No	No	Assess for critical habitat
Jbel el Haouaria	50 km	Yes	No	Assess for critical habitat
Mount Cofano, Cape San Vito and Mount Sparagio	50 km	Yes	No	Assess for critical habitat
Mount Pecoraro and Pizzo Cirina	50 km	Yes	No	Assess for biodiversity risk
Pantelleria	50 km	Yes	No	Assess for critical habitat
Sebkhet Ariana	50 km	No	No	Assess for critical habitat
Sebkhet Halk El Menzel et Oued Sed	50 km	No	No	Assess for critical habitat
Sebkhet Sidi Khelifa	50 km	Yes	No	Assess for critical habitat
Stagnone di Marsala and Trapani saltpans	50 km	Yes	No	Assess for critical habitat

Species with potential to occur

Area Taxonomic group	Total assessed species	Total (CR, EN & VU)	CR	EN	VU	NT	LC	DD
ACTINOPTERYGII	346	16	3	3	10	6	298	26
CHONDRICHTHYES	65	43	12	12	19	11	9	2
GASTROPODA	97	16	3	7	6	10	59	12
MAGNOLIOPSIDA	195	10	5	4	1	20	158	7
LILIOPSIDA	168	11	2	3	6	9	145	3
INSECTA	240	24	3	8	13	18	149	49
AVES	284	14	2	3	9	15	255	0
LYCOPODIOPSIDA	2	1	1	0	0	0	1	0
BIVALVIA	9	1	1	0	0	1	6	1
REPTILIA	37	4	0	2	2	2	29	2
ANTHOZOA	5	1	0	1	0	0	3	1
POLYPODIOPSIDA	5	1	0	1	0	1	3	0
MAMMALIA	77	13	0	5	8	8	54	2
BRYOPSIDA	1	1	0	1	0	0	0	0
AGARICOMYCETES	10	6	0	1	5	1	3	0
MALACOSTRACA	14	0	0	0	0	1	11	2
CEPHALASPIDOMORPHI	1	0	0	0	0	0	1	0

Area Taxonomic group	Total assessed species	Total (CR, EN & VU)	CR	EN	VU	NT	LC	DD
AMPHIBIA	10	0	0	0	0	0	10	0
HOLOTHUROIDEA	12	0	0	0	0	0	7	5
MYXINI	1	0	0	0	0	0	1	0
SORDARIOMYCETES	1	0	0	0	0	0	1	0
LECANOROMYCETES	1	0	0	0	0	0	1	0

Recommended citation

IBAT PS6 & ESS6 Report. Generated under licence 30742-34636 from the Integrated Biodiversity Assessment Tool on 27 September 2022 (GMT). www.ibat-alliance.org

Recommended Experts and Organizations

For projects located in Critical Habitat, clients must ensure that external experts with regional expertise are involved in further assessment (GN6: GN22). Clients are encouraged to develop partnerships with recognized and credible conservation organizations and/or academic institutes, especially with respect to potential developments in natural or Critical Habitat (GN6: GN23). Where Critical Habitats are triggered by priority species, species specialists must be involved. IBAT provides data originally collected by a large network of national partners, while species information is sourced via the IUCN Red List and affiliated Species Specialist Groups. These experts and organizations are listed below. **Please note that this is not intended as a comprehensive list of organizations and experts. These organizations and experts are under no obligation to support any further assessment and do so entirely at their discretion and under their terms. Any views expressed or recommendations made by these stakeholders should not be attributed to the IFC or IBAT for IFC partners.**

Birdlife Partners

URL: <https://www.birdlife.org/worldwide/partnership/birdlife-partners>

Directory for Species Survival Commission (SSC) Specialist Groups and Red List Authorities

URL: <https://www.iucn.org/commissions/ssc-groups>

     	Contractor Doc No: Annex A	Date 2023-01-23	Page 30 of 37
---	----------------------------	--------------------	---------------

Appendix 2 – IUCN-listed CR, EN, VU terrestrial species which distribution overlaps with the IBAT buffer area

The list includes 96 species (19 CR, 31 EN, 46 VU).

Class	Family	Species name	Common name	IUCN status
BIRDS				
AVES	PROCELLARIIDAE	<i>Puffinus mauretanicus</i>	Balearic Shearwater	CR
AVES	SCOLOPACIDAE	<i>Numenius tenuirostris</i>	Slender-billed Curlew	CR
AVES	ANATIDAE	<i>Oxyura leucocephala</i>	White-headed Duck	EN
AVES	ACCIPITRIDAE	<i>Neophron percnopterus</i>	Egyptian Vulture	EN
AVES	FALCONIDAE	<i>Falco cherrug</i>	Saker Falcon	EN
AVES	COLUMBIDAE	<i>Streptopelia turtur</i>	European Turtle-dove	VU
AVES	LARIDAE	<i>Larus audouinii</i>	Audouin's Gull	VU
AVES	LARIDAE	<i>Rissa tridactyla</i>	Black-legged Kittiwake	VU
AVES	ALCIDAE	<i>Fratercula arctica</i>	Atlantic Puffin	VU
AVES	FALCONIDAE	<i>Falco vespertinus</i>	Red-footed Falcon	VU
AVES	PROCELLARIIDAE	<i>Puffinus yelkouan</i>	Yelkouan Shearwater	VU
AVES	ANATIDAE	<i>Marmaronetta angustirostris</i>	Marbled Teal	VU
AVES	ANATIDAE	<i>Aythya ferina</i>	Common Pochard	VU
AVES	PASSERIDAE	<i>Passer italiae</i>	Italian Sparrow	VU
FISH				
ACTINOPTERYGII	ACIPENSERIDAE	<i>Acipenser sturio</i>	European Sturgeon	CR
ACTINOPTERYGII	ANGUILLIDAE	<i>Anguilla anguilla</i>	European Eel	CR
ACTINOPTERYGII	LEUCISCIDAE	<i>Anaocypris punica</i>	Punican Bleak	CR
ACTINOPTERYGII	CLUPEIDAE	<i>Alosa algeriensis</i>	North African Shad	EN
ACTINOPTERYGII	LEUCISCIDAE	<i>Tropidophoxinellus chaignoni</i>	Tunisian Bleak	EN
ACTINOPTERYGII	CYPRINIDAE	<i>Cyprinus carpio</i>	Common Carp	VU
FUNGI				
AGARICOMYCETES	PHYSALACRICEAE	<i>Laccariopsis mediterranea</i>	Collybie méditerranéenne	EN
AGARICOMYCETES	AGARICACEAE	<i>Lepiota brunneolilacea</i>	Star Dapperling	VU
AGARICOMYCETES	BOLETACEAE	<i>Buchwaldoboletus lignicola</i>	Wood Bolete	VU
AGARICOMYCETES	BOLETACEAE	<i>Alessiopus ichnusanus</i>		VU
AGARICOMYCETES	HYGROPHORACEAE	<i>Hygrocybe ovina</i>	Blushing Waxcap	VU
AGARICOMYCETES	HYGROPHORACEAE	<i>Hygrocybe punicea</i>	Crimson Waxcap	VU

Class	Family	Species name	Common name	IUCN status
MOLLUSCS				
GASTROPODA	GEOMITRIDAE	<i>Ceruella amanda</i>		CR
GASTROPODA	CLAUSILIIDAE	<i>Charpentieria spezialensis</i>		CR
GASTROPODA	CLAUSILIIDAE	<i>Charpentieria crassicosata</i>		CR
GASTROPODA	HELICIDAE	<i>Cornu mazzullii</i>		EN
GASTROPODA	GEOMITRIDAE	<i>Ceruellea rugosa</i>		EN
GASTROPODA	HELICIDAE	<i>Marmorana nebrodensis</i>		EN
GASTROPODA	OXYCHILIDAE	<i>Oxychilus fuscus</i>		EN
GASTROPODA	CLAUSILIIDAE	<i>Charpentieria emimens</i>		EN
GASTROPODA	CLAUSILIIDAE	<i>Charpentieria leucophryna</i>		EN
GASTROPODA	CLAUSILIIDAE	<i>Charpentieria nobilis</i>		EN
GASTROPODA	CHONDRINIDAE	<i>Rupestrella homala</i>		VU
GASTROPODA	ACICULIDAE	<i>Acicula benoiti</i>		VU
GASTROPODA	CHONDRINIDAE	<i>Rupestrella jaeckeli</i>		VU
GASTROPODA	COCHLOSTOMATIDAE	<i>Cochlostoma palatititanum</i>		VU
ARTHROPODS				
INSECTA	APIDAE	<i>Nomada siciliensis</i>		CR
INSECTA	TETTIGONIIDAE	<i>Decorana drepanensis</i>	Trapani Bush-cricket	CR
INSECTA	TETTIGONIIDAE	<i>Uromenus riggioi</i>	Riggio's Saddle Bush-cricket	CR
INSECTA	ACRIDIDAE	<i>Sphingonotus personatus</i>	Italian Sand Grasshopper	EN
INSECTA	ACRIDIDAE	<i>Ochridia sicula</i>	Sicilian Match Grasshopper	EN
INSECTA	ACRIDIDAE	<i>Docostaurus minutus</i>	Sicilian Cross-backed Grasshopper	EN
INSECTA	CERAMBYCIDAE	<i>Neomarius gandolphii</i>		EN
INSECTA	DYNASTIDAE	<i>Galicnemis latreillei</i>		EN
INSECTA	GEOTRUPIDAE	<i>Thorectes puncticollis</i>		EN
INSECTA	TETTIGONIIDAE	<i>Pterolepis elymica</i>	Sicilian Bush-cricket	EN
INSECTA	CALOPTERYGIDAE	<i>Calopteryx exul</i>	Glittering Demoiselle	EN
INSECTA	CERAMBYCIDAE	<i>Glytus clavicornis</i>		VU
INSECTA	LUCANIDAE	<i>Dorus musimon</i>		VU
INSECTA	CEROPHYTIDAE	<i>Cerophytum elateroides</i>		VU
INSECTA	CARABIDAE	<i>Glimidium canaliculatum</i>		VU
INSECTA	MYCETOPHAGIDAE	<i>Esarcus fiorii</i>		VU
INSECTA	TETRATOMIDAE	<i>Tetratoma tedaldi</i>		VU
INSECTA	TETTIGONIIDAE	<i>Tessellana lagrecai</i>	La Greca's Slender Bush-cricket	VU
INSECTA	CERAMBYCIDAE	<i>Grammoptera viridipennis</i>		VU

Class	Family	Species name	Common name	IUCN status
INSECTA	CERAMBYCIDAE	<i>Neopiciella sicula</i>		VU
INSECTA	CLERIDAE	<i>Thanasimodes dorsalis</i>		VU
INSECTA	TETTIGONIIDAE	<i>Tettigonia savignyi</i>	Maghreb Green Bush-cricket	VU
INSECTA	SYRPHIDAE	<i>Paragus sexarctuatus</i>		VU
INSECTA	GOMPHIDAE	<i>Gomphus lucasii</i>		VU
PLANTS				
LILIOPSISIDA	POACEAE	<i>Puccinellia gussonei</i>		CR
LILIOPSISIDA	ORCHIDACEAE	<i>Serapias stenopetala</i>	Sérapias à Pétales Étroits	CR
LILIOPSISIDA	ASPARAGACEAE	<i>Leopoldia gussonei</i>		EN
LILIOPSISIDA	AMARYLLIDACEAE	<i>Allium agrigentinum</i>		EN
LILIOPSISIDA	CYPERACEAE	<i>Rhynchospora modesti-lucennoi</i>		EN
LILIOPSISIDA	POACEAE	<i>Stipa tenacissima</i>	Needle Grass	VU
LILIOPSISIDA	LILACEAE	<i>Gagea chrysantha</i>		VU
LILIOPSISIDA	LILACEAE	<i>Gagea apulica</i>		VU
LILIOPSISIDA	ASPARAGACEAE	<i>Leopoldia maritima</i>		VU
LILIOPSISIDA	JUNCACEAE	<i>Juncus sorrentinii</i>	Jonc de Sorrentino	VU
LILIOPSISIDA	ALISMATACEAE	<i>Damasonium polyspernum</i>	Starfruit	VU
LYCOPODIOPSIDA	ISOETACEAE	<i>Isoetes todaroana</i>	Sicilian Quillwort	CR
MAGNOLIOPSISIDA	BRASSICACEAE	<i>Brassica macrocarpa</i>		CR
MAGNOLIOPSISIDA	ROSACEAE	<i>Sorbus busambarensis</i>		CR
MAGNOLIOPSISIDA	ASTERACEAE	<i>Ptilostemon greuteri</i>		CR
MAGNOLIOPSISIDA	ONAGRACEAE	<i>Epilobium numidicum</i>	Epilobe de Numidie	CR
MAGNOLIOPSISIDA	POLYGONACEAE	<i>Rumex tunetanus</i>	Patience de Tunisie	CR
MAGNOLIOPSISIDA	ASTERACEAE	<i>Tripolium sorrentinoi</i>		EN
MAGNOLIOPSISIDA	PLUMBAGINACEAE	<i>Limonium poimenum</i>		EN
MAGNOLIOPSISIDA	BRASSICACEAE	<i>Brassica drepanensis</i>		EN
MAGNOLIOPSISIDA	POLYGONACEAE	<i>Rumex algeriensis</i>	Renouée d'Algérie	EN
MAGNOLIOPSISIDA	BRASSICACEAE	<i>Lepidium violaceum</i>		VU
POLYPODIOPSIDA	MARSILEACEAE	<i>Pilularia minuta</i>	Dwarf Pillwort	EN
BRYOPSISIDA	BRACHYTHECIACEAE	<i>Rhynchoszegium stronglyense</i>		EN
MAMMALS				
MAMMALIA	BOVIDAE	<i>Ammotragus lervia</i>	Aoudad	VU
MAMMALIA	FELIDAE	<i>Panthera pardus</i>	Leopard	VU
MAMMALIA	LEPORIDAE	<i>Lepus corsicanus</i>	Corsican Hare	VU
MAMMALIA	VESPERTILIONIDAE	<i>Myotis capaccinii</i>	Long-fingered Bat	VU

    	<p>Contractor Doc No: Annex A</p> <p>Date 2023-01-23</p> <p>Page 33 of 37</p>	
---	---	---

Class	Family	Species name	Common name	IUCN status
MAMMALIA	VESPERTILIONIDAE	<i>Nyctalus lasiopterus</i>	Giant Noctule	VU
MAMMALIA	RHINOLOPHIDAE	<i>Rhinolophus mehelyi</i>	Mehely's Horseshoe Bat	VU
MAMMALIA	MINIOPTERIDAE	<i>Miniopterus schreibersii</i>	Schreiber's Bent-winged Bat	VU
REPTILES				
REPTILIA	LACERTIDAE	<i>Acanthodactylus blanci</i>	Blanc's Fringe-toed Lizard	EN

Appendix 3 – IUCN-listed CR, EN, VU marine species which distribution overlaps with the IBAT buffer area

The list includes 66 species (13 CR, 20 EN, 33 VU).

Class	Family	Species name	Common name	IUCN status
FISH				
ACTINOPTERYGII	GOBIIDAE	<i>Pomatoschistus tortonesei</i>	Tortonese's Goby	EN
ACTINOPTERYGII	EPINOPHELIDAE	<i>Epinephelus marginatus</i>	Dusky Grouper	VU
ACTINOPTERYGII	SPARIDAE	<i>Dentex dentex</i>	Common Dentex	VU
ACTINOPTERYGII	ISTIPHORIDAE	<i>Istiophorus platypterus</i>	Sailfish	VU
ACTINOPTERYGII	LABRIDAE	<i>Labrus viridis</i>	Green Wrasse	VU
ACTINOPTERYGII	POMATOMIDAE	<i>Pomatomus saltatrix</i>	Bluefish	VU
ACTINOPTERYGII	BALISTIDAE	<i>Balistes capricus</i>	Gray Triggerfish	VU
ACTINOPTERYGII	CLUPEIDAE	<i>Sardinella maderensis</i>	Madeira Sardinella	VU
ACTINOPTERYGII	CARANGIDAE	<i>Trachurus trachurus</i>	Atlantic Horse Mackerel	VU
ACTINOPTERYGII	SCIAENIDAE	<i>Umbrina cirrosa</i>	Shi Drum	VU
CHONDRICHTHYES	ODONTASPIDIDAE	<i>Carcharias taurus</i>	Sand Tiger Shark	CR
CHONDRICHTHYES	SQUATINIDAE	<i>Squatina squatina</i>	Angelshark	CR
CHONDRICHTHYES	TRIAKIDAE	<i>Galeorhinus galeus</i>	Tope	CR
CHONDRICHTHYES	SPHYRNIDAE	<i>Sphyrna mokarran</i>	Great Hammerhead	CR
CHONDRICHTHYES	MYLIOBATIDAE	<i>Aetomylaeus bovinus</i>	Duckbill Eagle Ray	CR
CHONDRICHTHYES	RAJIDAE	<i>Leucoraja melitensis</i>	Maltese Skate	CR
CHONDRICHTHYES	SQUATINIDAE	<i>Squatina aculeata</i>	Sawback Angelshark	CR
CHONDRICHTHYES	SQUATINIDAE	<i>Squatina oculata</i>	Smoothback Angelshark	CR
CHONDRICHTHYES	RHINOBATIDAE	<i>Rhinobatos rhinobatos</i>	Common Guitarfish	CR
CHONDRICHTHYES	RHINOPTERIDAE	<i>Rhinoptera marginata</i>	Lusitanian Cownose Ray	CR
CHONDRICHTHYES	MYLIOBATIDAE	<i>Myliobatis aquila</i>	Common Eagle Ray	CR
CHONDRICHTHYES	GLAUCOSTEGIDAE	<i>Glaucostegus cemiculus</i>	Blackchin Guitarfish	CR
CHONDRICHTHYES	CARCHARINIDAE	<i>Carcharhinus plumbeus</i>	Sandbar Shark	EN
CHONDRICHTHYES	CETORHINIDAE	<i>Cetorhinus maximus</i>	Basking Shark	EN
CHONDRICHTHYES	TRIAKIDAE	<i>Mustelus mustelus</i>	Common Smoothhound	EN
CHONDRICHTHYES	CENTROPHORIDAE	<i>Centrophorus uyato</i>	Little Gulper Shark	EN



Class	Family	Species name	Common name	IUCN status
CHONDRICHTHYES	ECHINORHINIDAE	<i>Echinorhinus brucus</i>	Bramble Shark	EN
CHONDRICHTHYES	RAJIDAE	<i>Rostroraja alba</i>	White Skate	EN
CHONDRICHTHYES	OXYNOTIDAE	<i>Oxynotus centrina</i>	Angular Roughshark	EN
CHONDRICHTHYES	GYMNURIDAE	<i>Gymnura altavela</i>	Spiny Butterfly Ray	EN
CHONDRICHTHYES	RAJIDAE	<i>Raja radula</i>	Rough Skate	EN
CHONDRICHTHYES	RAJIDAE	<i>Raja undulata</i>	Undulate Skate	EN
CHONDRICHTHYES	RAJIDAE	<i>Leucoraja circularis</i>	Sandy Skate	EN
CHONDRICHTHYES	MOBULIDAE	<i>Mobula mobular</i>	Spinetail Devil Ray	EN
CHONDRICHTHYES	CARCHARHINIDAE	<i>Carcharhinus limbatus</i>	Blacktip Shark	VU
CHONDRICHTHYES	DALATIIDAE	<i>Dalatias licha</i>	Kitefin Shark	VU
CHONDRICHTHYES	LAMNIDAE	<i>Lamna nasus</i>	Porbeagle	VU
CHONDRICHTHYES	ALOPIIDAE	<i>Alopias vulpinus</i>	Common Thresher	VU
CHONDRICHTHYES	CARCHARHINIDAE	<i>Carcharhinus brevipinna</i>	Spinner Shark	VU
CHONDRICHTHYES	CARCHARHINIDAE	<i>Carcharhinus falciformis</i>	Silky Shark	VU
CHONDRICHTHYES	SPHYRNIDAE	<i>Sphyrna zygaena</i>	Smooth Hammerhead	VU
CHONDRICHTHYES	ODONTASPIDIDAE	<i>Odontaspis ferox</i>	Smalltooth Sand Tiger	VU
CHONDRICHTHYES	CHIMAERIDAE	<i>Chimaera monstrosa</i>	Rabbitfish	VU
CHONDRICHTHYES	TORPEDINIDAE	<i>Torpedo marmorata</i>	Marbled Torpedo Ray	VU
CHONDRICHTHYES	ETMOPTERIDAE	<i>Etmopterus spinax</i>	Velvet Belly Lanternshark	VU
CHONDRICHTHYES	TORPEDINIDAE	<i>Torpedo torpedo</i>	Ocellate Torpedo	VU
CHONDRICHTHYES	DASYATIDAE	<i>Dasyatis pastinaca</i>	Common Stingray	VU
CHONDRICHTHYES	RAJIDAE	<i>Leucoraja fullonica</i>	Shagreen Skate	VU
CHONDRICHTHYES	SCYLIORHINIDAE	<i>Scyliorhinus stellaris</i>	Nursehound	VU
CHONDRICHTHYES	TRIAKIDAE	<i>Mustelus punctulatus</i>	Blackspotted Smoothhound	VU
CHONDRICHTHYES	ALOPIIDAE	<i>Alopias superciliosus</i>	Bigeye Thresher	VU
CHONDRICHTHYES	SQUALIDAE	<i>Squalus acanthias</i>	Spiny Dogfish	VU
CHONDRICHTHYES	DASYATIDAE	<i>Bathyshia lata</i>	Brown Stingray	VU
MAMMALS				
MAMMALIA	BALAENOPTERIDAE	<i>Balaenoptera physalus</i>	Fin Whale (Medit. subpop.)	EN
MAMMALIA	PHYSETERIDAE	<i>Physeter macrocephalus</i>	Sperm Whale (Medit. subpop.)	EN
MAMMALIA	DELPHINIDAE	<i>Grampus griseus</i>	Risso's Dolphin (Medit. subpop.)	EN
MAMMALIA	DELPHINIDAE	<i>Delphinus delphis</i>	Common Dolphin (Medit. subpop.)	EN
MAMMALIA	DELPHINIDAE	<i>Globicephala melas</i>	Long-finned Pilot Whale (Medit. subpop.)	EN
MAMMALIA	ZIPHIIDAE	<i>Ziphius cavirostris</i>	Cuvier's Beaked Whale (Medit. subpop.)	VU
INVERTEBRATES				



ELMED Etudes SARL

Contractor Doc No: Annex A

Date
2023-01-23

Page 36 of 37

Class	Family	Species name	Common name	IUCN status
BIVALVIA	PINNIIDAE	<i>Pinna nobilis</i>	Fan Mussel	CR
ANTHOZOA	FAVIIDAE	<i>Cladocora caespitosa</i>	Mediterranean Pillow Coral	EN
GASTROPODA	HALIOTIDAE	<i>Haliotis stomatiaeformis</i>	Green Ormer	VU
GASTROPODA	HALIOTIDAE	<i>Haliotis tuberculata</i>	Green Ormer	VU
REPTILES				
REPTILIA	CHELONIIDAE	<i>Chelonia mydas</i>	Green Turtle	EN
REPTILIA	CHELONIIDAE	<i>Caretta caretta</i>	Loggerhead Turtle	VU
REPTILIA	DERMOCHELYIDAE	<i>Dermochelys coriacea</i>	Leatherback	VU

     	Contractor Doc No: Annex A	Date 2023-01-23	Page 37 of 37

Appendix 4 – Other protected areas and key biodiversity areas (PA/KBA)

This list includes the PA/KBA located within the buffer drawn in IBAT (15 km from project infrastructure + 1 km buffer automatically added in IBAT) that were not presented in the core report because outside the buffer area considered in this analysis (see Table 1.1).

Name	Type of PA	National / International	Terrestrial / Marine	Distance from Project (approx.)
TUNISIA Sebkhet Sejoumi	Ramsar Site, IBA	National	Terrestrial	>15 km