Ovacık Wind Power Plant (WPP) Project

Critical Habitat Assessment (CHA) Report

June 2024

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Definitions and Abbreviations

Abbreviation	Definition
AoA	Area of Analysis
AoI	Area of Influence
AZE	Alliance for Zero Extinction
BAP	Biodiversity Action Plan
BMMP	Biodiversity Management and Monitoring Plan
CHA	Critical Habitat Assessment
CITES	Convention for the International Trade in Endangered Species of Wild Fauna and Flora
CR	Critically Endangered
CRM	Collusion Risk Model
DD	Data Deficient
EAAA	Ecologically Appropriate Area of Analysis
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EN	Endangered
EOO	Extent of Occurrence
ESIA	Environmental and Social Impact Assessment
EU	European Union
EUNIS	European Nature Information System
GN	Guidance Notes
IAoI	Indirect Area of Influence
IBA	Important Bird Area
IFC	International Finance Cooperation
IUCN	International Union for Conservation of Nature
JPM	J.P. Morgan
KBA	Key Biodiversity Area
LC	Least Concern
NT	Near Threatened
PBF	Priority Biodiversity Features
PR	Performance Requirement
PS	Performance Standard
RAMSAR	Convention on Wetlands of International Importance Especially as Waterfowl Habitat
VP	Vintage Point
VU	Vulnerable
WPP	Wind Power Plant

Executive summary

CHA for Ovacık WPP Project has been undertaken in line with IFC PS6 and corresponding GN to identify areas which are considered as critical habitats and critical habitats triggering species. The CHA presents the screening of biodiversity features and threatened wildlife, and plant species identified.

This report aims to identify Critical Habitat-qualifying biodiversity associated with the Project; Natural and Modified Habitat and identify the recommended next steps for the Project, including identification of data gaps and the need for additional field surveys. Thus, based on these aims literature searches, desktop and field studies were conducted, nationally and internationally recognized areas were considered within EAAA. In line with PS6 and corresponding GN, the critical habitats, critical habitat triggered species and important biodiversity features were determined considering that the critical habitats are areas with high biodiversity value, including (i) habitat of significant importance to CR and/or EN species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes within EAAA.

Due to a combination of uncertainties with the Project specific data and global and/or regional availability of relevant literature for some species, a high-level assessment was accomplished for the present CHA. This CHA study should be considered preliminary, as extensive additional baseline surveys have been scheduled in 2024 for flora, fauna, birds, bats and invertebrate species to enhance the baseline by addressing data quality and quantity. The CHA is expected to undergo significant revision after the data gaps have been bridged following the baseline collection.

In light of the assessment, one habitat was determined as priority biodiversity feature. Additionally, 1 plant species, 5 bird species, 12 mammal species and 1 reptile were identified as PBF for a total of 20 PBF triggers. Two bird species were identified as potential critical habitat triggers to be clarified in 2024 additional baseline.

1 Introduction

1.1 Project Background

Enerjisa Üretim Santralleri Anonim Şirketi has been awarded to invest in the Çanakkale Connection Region on 30 May 2019 within the scope of ""Renewable Energy Resource Areas (YEKA) Regulation" and "Allocation of Wind Energy Based Renewable Energy Resource Areas (YEKA) and Total Connection Capacities"[1]. Upon this award, a "YEKA Use Rights Agreement" was signed between Enerjisa Üretim Santralleri Anonim Şirketi and Ministry of Energy and Natural Resources (MoENR) on 09 March 2020. Subsequently, the "YEKA Use Rights Agreement" signed by Enerjisa Üretim Santralleri Anonim Şirketi for the Çanakkale Connection Region was transferred to Enerjisa Enerji Üretim Anonim Şirketi ("Enerjisa Üretim" or "the Project Company") with the transfer agreements signed on 03 June 2021.

Ovacık WPP Project ("the Project") with 13 turbines and 54.6 MW_m/54.6 MW_e total installed power, is planned to be established by Enerjisa Üretim in Çanakkale Province, Bayramiç District, Gökçeiçi, Kuşçayır and Karıncalık Neighbourhoods. The Project components consist of 13 turbines, a switchyard, Project roads (i.e., access and site roads), a 68.75 tonnes/hour capacity mobile crushing and screening facility[2] (to be used as needed), as well as an energy transmission line (ETL) as a Project associate facility. The Project is part of a nine-project wind energy investment package initiated by Enerjisa Üretim which has a 750 MW total installed power from a total of 180 wind turbines located in the Aegean and Marmara Regions of western Turkey; aiming to evaluate and utilize the wind energy potential of the region and contribute to the national strategy and regional economy.

1.2 Scope of the Study

This report includesCHA for Ovacık WPP Project, that has been undertaken in line with IFC PS6 and corresponding GN to identify areas which are considered as critical habitats.

PS6 makes several stipulations for Critical Habitat, including achievement of a net gain for Critical Habitat-qualifying biodiversity. A net gain is required for all Critical Habitat features potentially affected by the Project. Where significant residual adverse effects are not predicted, additional conservation actions supported by qualitative evidence and expert opinion may be sufficient to substantiate a net gain. If, however, after the application of feasible preventive and restorative actions in the first steps of the mitigation hierarchy (avoid, mitigate, restore), there is a potentially significant residual impact on a Critical Habitat qualifying feature then ecological compensation (offset) is required with measurable conservation outcomes at an appropriate geographical scale. In Natural Habitat, no net loss, where possible, is required. A robust project specific ESIA baseline is vital, followed by an iterative and thorough application of the mitigation hierarchy to ensure that impacts are avoided, minimized, and restored as far as feasible, reducing the significance of any residual impacts and the requirement for offsetting.

This report is a living document and hence, should be updated to reflect increased understanding of Project program and design throughout construction and operation (until agreed otherwise by Project Lenders) and should also be informed by new information as it becomes available (e.g., as obtained from ongoing/pre-construction surveys or as received from pertinent stakeholders).

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[1] Published in the Official Gazette Date/No: 07.11.2018/30588

[2] 68.75 tonnes/hour capacity mobile crashing and screening facility was included in the Environmental Impact Assessment (EIA) Study.

2 Approach

In accordance with IFC PS6, habitats are divided into modified, natural and critical habitats. Critical habitats can be either modified or natural habitats supporting high biodiversity value, including:

- Habitat of significant importance to CR and/or EN species (IUCN Red List)
- Habitat of significant importance to endemic and/or restricted-range species
- Habitat supporting globally significant concentrations of migratory species and/or congregatory species
- Highly threatened and/or unique ecosystems
- Areas associated with key evolutionary processes

PS6 guides how to best identify three classes of area based on vegetation condition ('quality' or 'state'), and significance for biodiversity (see. Table 2-1). PS6 uses the term 'habitat' to refer to these areas, rather than the actual vegetation within them. These three area classed are (i) Modified Habitat; (ii) Natural Habitat; and (iii) Critical Habitat (with Critical Habitat a subset of Modified and Natural Habitat).

Habitat condition is classified as either Natural or Modified based on the extent of human modification of the ecosystem. Monoculture plantations, agricultural areas and urban areas are usually classed as Modified. Both Natural and Modified Habitats may contain globally important biodiversity values, thereby qualifying as Critical Habitat.

Table 2-1 Habitat Classes

Areas Identified in PS6		Condition of the Area	
		Natural	**Modified**
High Biodiversity Values	**Present**	Critical Habitat	Critical Habitat
	Absent	Natural Habitat	Modified Habitat

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

Modified habitats are areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition.

Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones, and reclaimed wetlands.

PS6 applies to those areas of modified habitat that include significant biodiversity value, as determined by the risks and impacts identification process required in PS1. The client should minimize impacts on such biodiversity and implement mitigation measures as appropriate.

Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

The client will not significantly convert or degrade natural habitats, unless all of the following are demonstrated:

- No other viable alternatives within the region exist for development of the project on modified habitat;

- Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and

- Any conversion or degradation is mitigated according to the mitigation hierarchy.

In areas of natural habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible. Appropriate actions include:

- Avoiding impacts on biodiversity through the identification and protection of set asides,

- Implementing measures to minimize habitat fragmentation, such as biological corridors;

- Restoring habitats during operations and/or after operations; and

- Implementing biodiversity offsets

Critical habitats are areas with high biodiversity value, including (i) habitat of significant importance to CR and/or EN species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.

- In areas of critical habitat, the client will not implement any project activities unless all of the following are demonstrated.

- No other viable alternatives within the region exist for development of the project on modified or natural habitats that are not critical;

- The project does not lead to measurable adverse impacts on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values;

- The project does not lead to a net reduction in the global and/or national/regional population of any CR or EN species over a reasonable period of time; and

- A robust, appropriately designed, and long-term biodiversity monitoring and evaluation program is integrated into the client's management program.

In such cases where a client is able to meet the requirements defined above, the project's mitigation strategy will be described in a BAP and will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated.

2.1 Applicable Guidelines and Standards

2.1.1 International Requirements

International agreements, conventions, and protocols regarding protection of the habitats and species are listed below:

- The Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention) (1981)

- The Convention on the Conservation of European Wildlife and Natural Habitats (BERN) (1984)

- United Nations Framework Convention on Climate Change (1994)

- RAMSAR (1994)

- The UN Convention on Biological Diversity (1997) and Cartagena Protocol on Biosafety (2004)

- Kyoto Protocol (2009)

- The Convention on International Trade in EN Species of Wild Fauna and Flora (CITES) (1996)
- Paris Agreement (2016)

2.1.2   National Requirements

The primary framework of the Turkish legislation for environmental legislation is the Environmental Law (Law No: 2872). National laws and regulations regarding protection of the habitats and species are listed in Table 2-2.

Table 2-2: National Legislation on Biodiversity

Legislation (Official Gazette Date/Number - Last Revision Date)	National Strategy Documents
Law on National Parks (11.08.1983/18132 - 09.07.2018)	National Plan on on-site Protection of Plant Genetic Diversity (1998)
Terrestrial Hunting Law (11.07.2003/25165 - 28.10.2020)	National Environmental Action Plan (1999)
Law on Animal Protection (01.07.2004/25509 - 13.12.2010)	
Regulation on the Protection of Wetlands (04.04.2014/28962 - 23.06.2022)	National Forestry Program (2004)
Regulation for Implementing the Convention on International Trade in EN Species of Wild Fauna and Flora (27.12.2001/24623 - 20.07.2019)	Climate Change Action Plan (2012)
Regulation on Protection of Wildlife and Wildlife Development Areas (08.11.2004/25637)	Turkish National Action Plan against Desertification (2015)
Law on Protection of Cultural and Natural Assets (23.07.1983/18113 - 15.06.2022)	National Rural Development Strategy (2015)
Regulation on Collection, Protection and Usage of Plant Genetic Resources (19.07.2012/28358)	National Biological Diversity Strategy and Action Plan (2019)
Law on Fisheries (04.04.1971/ 13799 - 17.02.2021)	
The Environmental Protection Agency for Special Areas (08.07.2011/ 27988)	
Environment Law (11.08.1983 / 18132 - 15.06.2022)	
Forestry Law (08.09.1956 / 9402 - 25.12.2021)	
Law on Pasture (28.02.1998 / 23272 - 18.01.2019)	
Law on Coastal Areas Management (17.04.1990 / 20495 - 28.10.2020)	

2.1.3   Project Standards

The Project, which will be realized using the planned financing provided by a group of development finance institutions and commercial lenders, jointly "Project Lenders" and with partial coverage by the German ECA Euler Hermes Aktiengesellschaft ("EH"). The Project Company intends to develop the Project in alignment with the policy and requirements of the Lenders (i.e., EP IV, IFC and EBRD standards).

The international lender standards concerning biodiversity for the Project are represented by the IFC PS6 and related GN6, EBRD PR6 and GN6 as well as Equator Principles IV (EP IV).

The impact assessment and CHA are carried out in accordance with the following international requirements:

- IFC PSs on Environmental and Social Sustainability,
- EBRD's Environmental and Social Policy and PRs
- IUCN Red List of Threatened Species
- The Birds Directive (2009/147/EC)
- The Habitats Directive (92/43/EEC10)
- Post-construction Bird and Bat Fatality Monitoring for Onshore Wind Energy Facilities in Emerging Market Countries - Good Practice Handbook (2023)

The IFC PS6 objectives can be listed as:

- To protect and conserve biodiversity,
- To maintain the benefits from ecosystem services,
- To promote the sustainable management of living natural resources through the adoption of practices that integrates conservation needs and development priorities.

Similarly, the EBRD PR6 objectives are as defined below:

- Protect and conserve biodiversity using a precautionary approach,
- Adopt the mitigation hierarchy in the design and implementation of projects with the aim of achieving no net loss, and where appropriate, a net gain of biodiversity,
- Maintain ecosystem services, and
- Promote good international practice in the sustainable management and use of living natural resources.

2.2 Data Collection

The baseline collection methodology of this Draft ESIA relies primarily on desktop components which are detailed below and the data from field surveys conducted as part of National EIA. The Consultant conducted a brief site reconnaissance visit as well.

2.2.1 Desktop Study

A desktop review of the study area comprises the major component of the present Biodiversity assessment. The desktop component was performed perusing the following:

- National EIA report (Flora and Fauna section)
- Relevant publicly available peer-reviewed literature
- White and grey literature
- Public biodiversity databases
    - eBird[3],
    - European Breeding Bird Atlas[4]
    - iNaturalist[5],
    - Tramem[6],
    - Trakel[7],
    - Trakus[8],
    - Movebank[9],
    - Global Invasive species database[10],
    - Bizimbitkiler[11]
- Satellite imagery and maps
- Opinions of local biodiversity experts (formal / informal)

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[3] URL: Ebird.org. Last accessed: 8 December 2023.

[4] URL: ebba2.info, Last accessed: 8 December 2023.

[5] URL: Inaturalist.org. Last accessed: 8 December 2023.

[6] URL: Tramem.org. Last accessed: 8 December 2023.

[7] URL: Trakel.org. Last accessed: 8 December 2023.

[8] URL: Trakus.org. Last accessed: 8 December 2023.

[9] URL: movebank.org. Last accessed: 8 December 2023.

[10] URL: iucngisd.org. Last accessed: 8 December 2023.

[11] URL: Bizimbitkiler.org.tr. Last accessed: 8 December 2023.

- Internationally recognized areas
  - KBAs
  - IBAs
- IUCN Red List
- Nationally threatened species
- BERN convention and appendices
- EU Habitats Directive
  - Annex I habitats
  - Annex II/IV species

Baseline information on flora and fauna has been collected through ecological surveys conducted within the scope of the National EIA study. Accordingly, the timings of the field studies carried out are given below;

- Flora surveys conducted 15-23 October 2021 (National EIA).
- For terrestrial fauna (non-bat mammals, amphibians, reptiles), 15-23 October 2021. (National EIA).
- Bat surveys were conducted in August 2021, September 2021, and October 2021 for a total of 6 day/nights (National EIA).
- For ornithological surveys, the site was visited between 18 August – 27 October 2021 and 24 March – 7 April 2022, 15 times each period, for unknown effort duration. (National EIA).
- For honeybees and beekeeping, late autumn 2021 and early spring 2022 (National EIA).

2.2.2   Field Surveys

Given the limited timescale, it was not possible to undertake the biodiversity baseline surveys during appropriate season before the completion of the CHA study. It was possible to conduct a brief site visit (one day) which can be described as a site reconnaissance visit.

On 28 September 2023, the Project area was partially visited by two biodiversity consultants of Mott MacDonald. The visit was partial due to the following reasons,

- Access and site roads are only partially accessible by all-terrain vehicle,
- Limited time was available to cover the site on foot,
- Given the constraints, the visit was intended not as an exhaustive site assessment but as a rapid evaluation.

Due to the seasonality (autumn), the visit only provided an opportunity for general observations about habitat characteristics, especially for birds and bats.

If some features were not observed by the Consultant during this visit, it does not necessarily indicate such features are not present and/or abundant.

2.3   Identification of Ecologically Appropriate Area of Analysis

The Project consists of 13 turbines and their pads, the site and access roads, the switchyard area and the entire length of the ETL and pylons. Although the ETL and pylons are owned and operated by TEIAS, the standards of Project Lenders include these structures, along with the site roads and access roads, in impact assessments and subsequent adaptive management and monitoring programmes.

The investigation into the region's ecology was carried out to define anEAAA, to determine the presence of features that may qualify for Critical Habitat. The EAAA was identified at a scale

IAoI of the Project area, considering large-scale ecological processes. This approach ensures that all potential risks within the Project footprint and surrounding vicinity are taken into consideration.

For the purposes of this CHA, the EAAA for flora and terrestrial fauna (amphibians, reptiles and non-bat mammals) was designated by combining the wider Biga Mountains KBA borders with a suitable buffer around the Project footprint which encompasses the forested areas to the north and stops at the two parallel ecological barriers consisting of the Karamenderes River and the Bayramic highway at the southern edge. Further information regarding the KBA designation is provided under Section 12.3.3. The EAAA for flora and fauna encompasses an area of 1163 km^2. The EAAA for flora and terrestrial fauna is shown on Figure 2-1.

For EAAA for birds and bats, the main consideration was bird migration since the Project is located along the Dardanelles routes of migrants. The overall route direction between Lapseki and Canakkale (center) is NW-SE. Additionally, literature indicates a minor route through Lapseki – Bayramic to the western end of Kaz Mountains. Therefore, the EAAA is a N-S oriented approximately 20 km buffer which also encompasses a part of Biga Mountains KBA. The EAAA for birds and bats encompasses an area of 2335 km^2 and is shown on Figure 2-2.

Within the EAAA, an AoI of the Project on biodiversity values was designated. For flora species, since the main expected impact source is ground preparation during construction phase, and secondary impacts of habitat degradation during operation, the AoI was designated as extending 2 km from the Project footprint. A similar approach was taken for terrestrial fauna species (amphibians, reptiles, and non-bat mammals) however since these species are more mobile, the AoI was designated as extending 5 km from all Project components. For avifauna (birds and bats), which are highly mobile and migratory, and can utilize much larger territories, the extent of impact needs to be studied in a wider area. The primary expected impact source is due to interactions with moving and electrified Project components. Therefore, an AoI of 15 km was adopted. This AoI also ensures coverage of Project roads which are secondary sources of impact for avifauna. Project AoI for all taxa is shown on Figure 2-3.
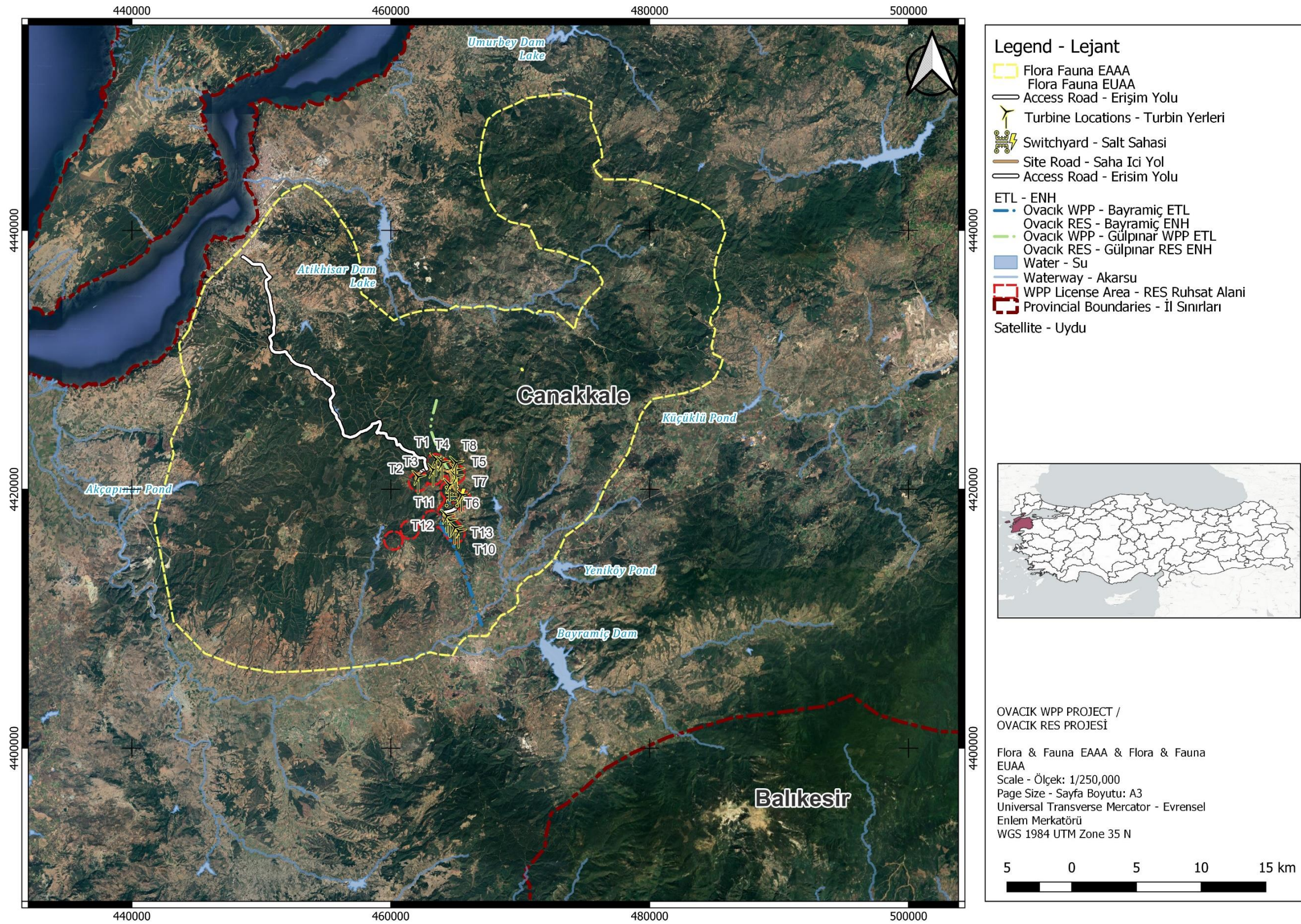
Figure 2-1: EAAA for Flora and Terrestrial Fauna for the Project
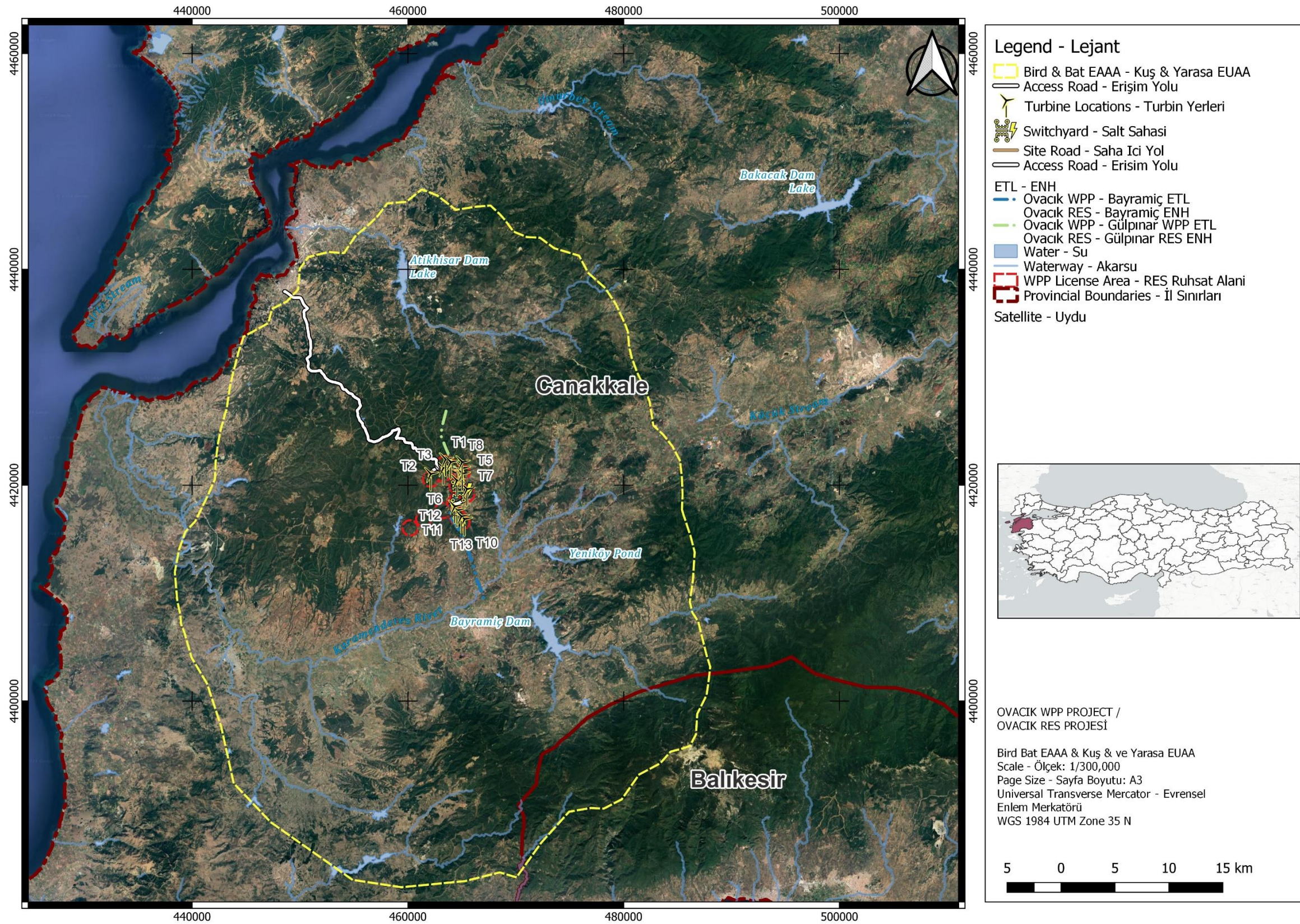
Figure 2-2: EAAA for Birds and Bats for the Project
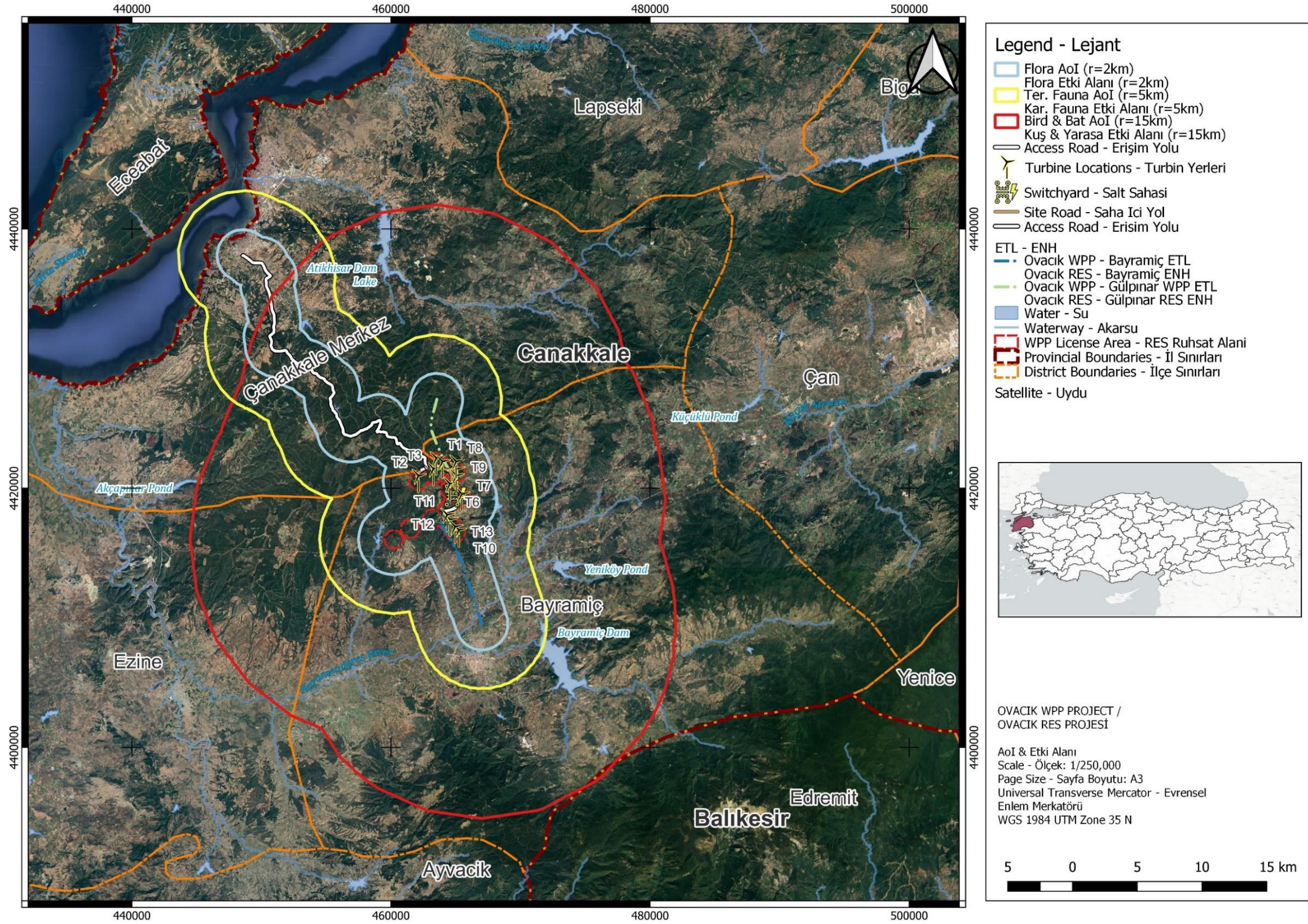
Figure 2-3: AoI for different biological taxa for the Project

2.4 Limitations and Assumptions

The Consultant undertakes the CHA study given the following important caveats and limitations:

1. **Field survey duration**: A very limited field survey was undertaken which can be described better as a field reconnaissance survey that lasted half a day. Given the limited timescale, it was not possible to undertake the biodiversity baseline surveys for appropriate duration or effort before the completion of the CHA. The visit was partial due to the following reasons,
   - Access and site roads are only partially accessible by all terrain vehicle,
   - No time was available to cover the site on foot.
2. **Field survey season**: The season (autumn) of the reconnaissance survey was not very conducive to studying the biodiversity features of the Project. Only a general impression of the habitat characteristics was obtained.
3. **Field survey coverage:** Only a limited portion of the Project site was able to be accessed. The entirety of the Project was not visited due to lack of vehicle accessible roads and lack of time to cover the area on foot.
4. **Desktop analysis:** The desktop component relies heavily on National EIA field studies at the Project area. However, the National EIA biodiversity surveys have deficiencies in meeting lender methodology and standards. One of the most significant deficiencies was pertaining to the Vantage Point surveys and Collision Risk Model**.** Additionally, Bat Activity Index is not available.
5. **Critical Habitat Assessment (CHA):** Due to time constraints of the assessment process and the quality/quantity of the field data available from the National EIA study, only a high-level CHA can be conducted. Present CHA relies mainly on (1) Desktop components and (2) National EIA surveys which are only considered preliminary.
1. **Field surveys proposed:**. Surveys for baseline collection in 2024 were scheduled by the Project company and will be used to update the present CHA study.

2.5 Critical Habitat Assessment Criteria

A high-level screening was undertaken to identify the likely occurrence of species and habitats that could trigger Critical Habitat using the IFC PS6 GN6 (IFC, 2019). These species included IUCN CR and EN species, restricted-range and migratory/ congregatory species that were identified with IUCN geographic ranges within the EAAA. Likelihood of occurrence was evaluated based on consultation with local biodiversity specialists, landcover mapping, habitat preferences of the species etc.

Critical Habitat Criteria are as follows and should form the basis of any CHA:

- Criterion 1: CR and/or EN species
- Criterion 2: Endemic or restricted-range species
- Criterion 3: Migratory or congregatory species
- Criterion 4: Highly threatened and/or unique ecosystems
- Criterion 5: Key evolutionary processes

Projects that are located within internationally and/or nationally recognized areas of high biodiversity value may require a CHA. Examples include the following:

- Areas that meet the criteria of the IUCN's Protected Area Categories Ia, Ib and II,
- KBAs, which encompass IBAs and KBAs,
- UNESCO Natural and Mixed World Heritage Sites,
- Sites that fit the designation criteria of the AZE

Quantitative thresholds for triggering Critical Habitat for Criteria 1-4 are described in Table 2-3.

Table 2-3: Quantitative thresholds for triggering Critical Habitat for Criteria 1-4

Criteria	Quantitative Thresholds
1. CR / EN Species	(a) Areas that support globally important concentrations of an IUCN Red-listed EN or CR species ($\geqslant$ 0.5% of the global population AND $\geqslant$ 5 reproductive units of a CR or EN species).
	(b) Areas that support globally important concentrations of an IUCN Red-listed VU species, the loss of which would result in the change of the IUCN Red List status to EN or CR and meet the thresholds in GN72(a).
	(c) As appropriate, areas containing important concentrations of a nationally or regionally listed EN or CR species.
2. Endemic / Restricted-range Species[12]	(a) Areas that regularly hold $\geqslant$10% of the global population size AND $\geqslant$10 reproductive units of a species.
3. Migratory / Congregatory Species	(a) Areas known to sustain, on a cyclical or otherwise regular basis, $\geqslant$ 1 percent of the global population of a migratory or congregatory species at any point of the species' lifecycle.
	(b) Areas that predictably support $\geqslant$10 percent of the global population of a species during periods of environmental stress.
4. Highly Threatened / Unique Ecosystems	(a) Areas representing $\geqslant$5% of the global extent of an ecosystem type meeting the criteria for IUCN status of CR or EN.
	(b) Other areas not yet assessed by IUCN but determined to be of high priority for conservation by regional or national systematic conservation planning.

Criterion 1-3: Species Biodiversity Values

In evaluating Ovacik WPP biodiversity values for criterion 1-3, species demonstrated to regularly occur on site (confirmed through survey or considered likely to be present) were screened against the relevant criteria listed in the table above. Taking into consideration factors such as habitat suitability, movements patterns, foraging and breeding habits within the EAAA were assessed for each species to identify potential critical habitat triggers. Since the population size data of the species in the Project area is in the form of relative abundance for the flora species, the population data was evaluated accordingly.

Relative abundance is calculated by local abundance / dominance method using Braun-Blanquette and Pavillard cover percentage scale. The scale is given below:

- Abundant species, weak cover percentage   1
- Abundant species or cover percentage more than 5%   2
- Cover percentage between 25% and 50%   3
- Cover percentage between 50% and 75%   4
- Cover percentage between 75% and 100%   5

For bat species, since both Bat Activity Index is unavailable from the Project area (or a nearby comparable project), and population (global and regional) data are very limited, it is not feasible to undertake CHA based on population sizes and predicted impact on populations. Therefore, all available information was gathered for the species which were observed or clearly indicated in literature for the area, and Priority Biodiversity Feature designations were made based on assigning 1 point each for the following criteria: (1) conservation status is VU or higher, (2)

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[12] For terrestrial vertebrates and plants, restricted-range species are defined as those species that have an extent of occurrence (EOO) less than 50,000 km^2

For coastal, riverine, and other aquatic species in habitats that do not exceed 200 km width at any point (for example, rivers), restricted range is defined as having a global range of less than or equal to 500km linear geographic span (i.e., the distance between occupied locations furthest apart).

collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. Species which scored 2 or 3 were included as Priority biodiversity feature.

Criterion 4: Highly Threatened / Unique Ecosystems

A desk study was undertaken to identify if a formal IUCN Red List of Ecosystems assessment has been performed in the EAAA. Where no formal IUCN assessment has been undertaken, a search for national/regional level assessments, which use systematic methods, is undertaken and identified. The presence of Annex I priority habitats designated in the EU Habitats Directive was also considered in line with EBRD PR6.

Criterion 5: Key Evolutionary Processes

The structural attributes of a region, such as its topography, geology, soil, temperature, and vegetation, as well as combinations of these variables, can influence the evolutionary processes that give rise to regional configurations of species and ecological properties such as genetically unique populations or subpopulations of plant and animal species. Maintaining these key evolutionary processes inherent in a landscape as well as the resulting species (or subpopulations of species) is important for the conservation of genetic diversity. By conserving species diversity within a landscape, the processes that drive speciation, as well as the genetic diversity within species, ensure the evolutionary flexibility in a system.

The determination of critical habitat for Key Evolutionary Processes is determined qualitatively on a case-by-case basis and heavily reliant on scientific knowledge (IFC, 2019); therefore, a literature review would need to be undertaken as part of a full CHA to assess if the EAAA includes sites where key evolutionary processes occur for biodiversity values.

Priority Biodiversity Features (PBF)

PBF have a high, but not the highest, degree of irreplaceability and/or vulnerability. Although a level below critical habitat in sensitivity, they still require careful consideration during project assessment and impact mitigation.

EBRD PR6 defines PBF as including:

- threatened habitats,
- VU species,
- significant biodiversity features identified by a broad set of stakeholders or governments (such as KBAs or IBAs), and
- ecological structure and functions needed to maintain the viability of PBF.

3 Baseline Conditions

3.1 Internationally Recognised and Nationally Protected Areas

While the direct footprint of Ovacık WPP, including access roads and ETL, is not located within a legally protected or internationally recognised area, the AoI of the Project partially overlaps multiple KBAs. The closest of these, and the one with the largest proportion of overlap, is Biga Mountains KBA. Kaz Mountains KBA and Çanakkale Strait KBA are also in partial overlap. [13]

3.2 Habitats and Flora

The recorded habitats are listed in the Table 3-1 and shown in Figure 3.1, along with their wide distribution areas within the study area. The amount of habitat lost due to site roads, turbine footprints and switchyard area are given in Table 3-3 - Table 3-5.

Table 3-1: Habitat Types of the Project AoI

Broad habitat type	EUNIS Habitat Type	Extend within AoI (ha)	Percentage (%)
Inland surface waters	C2.3 Permanent non-tidal, smooth-flowing watercourses	57.14134	0.2%
Woodland	G1.7 Termophilus deciduous woodland	155.442	0.7%
	G3.7 *Pinus brutia* woodland	13759.06	60.1%
	G3.F Plantation (*P.brutia*)	793.7173	3.5%
Maquis	F5.2 Maquis	219.0202	1.0%
Constructed, industrial and other artificial habitats	J2.2 Rural public buildings	405.7745	1.8%
	J5.3 Highly artificial non-saline standing water	69.20728	0.3%
Agricultural	I1.1 Intensive unmixed crops	7429.924	32.5%

National EIA flora surveys were conducted between 15-23 October 2021. Although the survey dates do not reflect seasonally suitable periods, the species list given is satisfactory a list of endemic species, based on all available information with their conservation status and whether they were encountered during field studies at the Project site is provided in National EIA. A total of 262 plant taxa were identified. The full list of species is not presented in this document, endemic species are listed with National Red List categories and locations in Table 3-7. Given these species have not yet been evaluated by IUCN, national red list categories have been used.

Table 3.2: Habitat Loss on Access Roads

EUNIS	Area (ha)	Percentage
G1.7 Termophilus deciduous woodland	24.86644835	0.18%
G3.7 Pinus brutia woodland	2.705795871	0.34%
G3.F Plantation (P.brutia)	6.631280838	0.09%
J2.2 Rural public buildings	0.098430299	0.02%

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[13] Turkey's Nature | Key Biodiversity Areas of Turkey (keybiodiversityareasturkey.org)

Table 3-3 Habitat Loss on Site Roads

EUNIS	Area (ha)	Percentage
G1.7 Termophilus deciduous woodland	0.09	0.0575%
G3.7 Pinus brutia woodland	11.00	0.0800%
G3.F Plantation (P.brutia)	1.92	0.2419%
I1.1 Intensive unmixed crops	1.47	0.0198%
Total	**14.48**	

Table 3-4 Habitat Loss on Turbine Footprint

EUNIS	Area (ha)	Percentage
G1.7 Termophilus deciduous woodland	1.52	0.9749%
G3.7 Pinus brutia woodland	13.04	0.0948%
G3.F Plantation (P.brutia)	5.14	0.6481%
I1.1 Intensive unmixed crops	0.00	0.0000%
Total	**19.70**	

Table 3-5 Habitat Loss on Switchyard Area

EUNIS	Area (ha)	Percentage
G1.7 Termophilus deciduous woodland	0.000	0.0000%
G3.7 Pinus brutia woodland	0.000	0.0000%
G3.F Plantation (P.brutia)	0.0127	0.0016%
I1.1 Intensive unmixed crops	1.3526	0.0182%
Total	**1.3653**	

Table 3.6: Habitat Loss on ETL

EUNIS	Area (ha)	Percentage
G3.7 Pinus brutia woodland	128.5982	0.93%
C2.3 Permanent non-tidal, smooth-flowing watercourses	31.35323	54.87%
G1.7 Termophilus deciduous woodland	34.79968	22.39%
G3.F Plantation (P.brutia)	19.56718	2.47%
I1.1 Intensive unmixed crops	88.06555	1.19%
Total	**302.3839**	
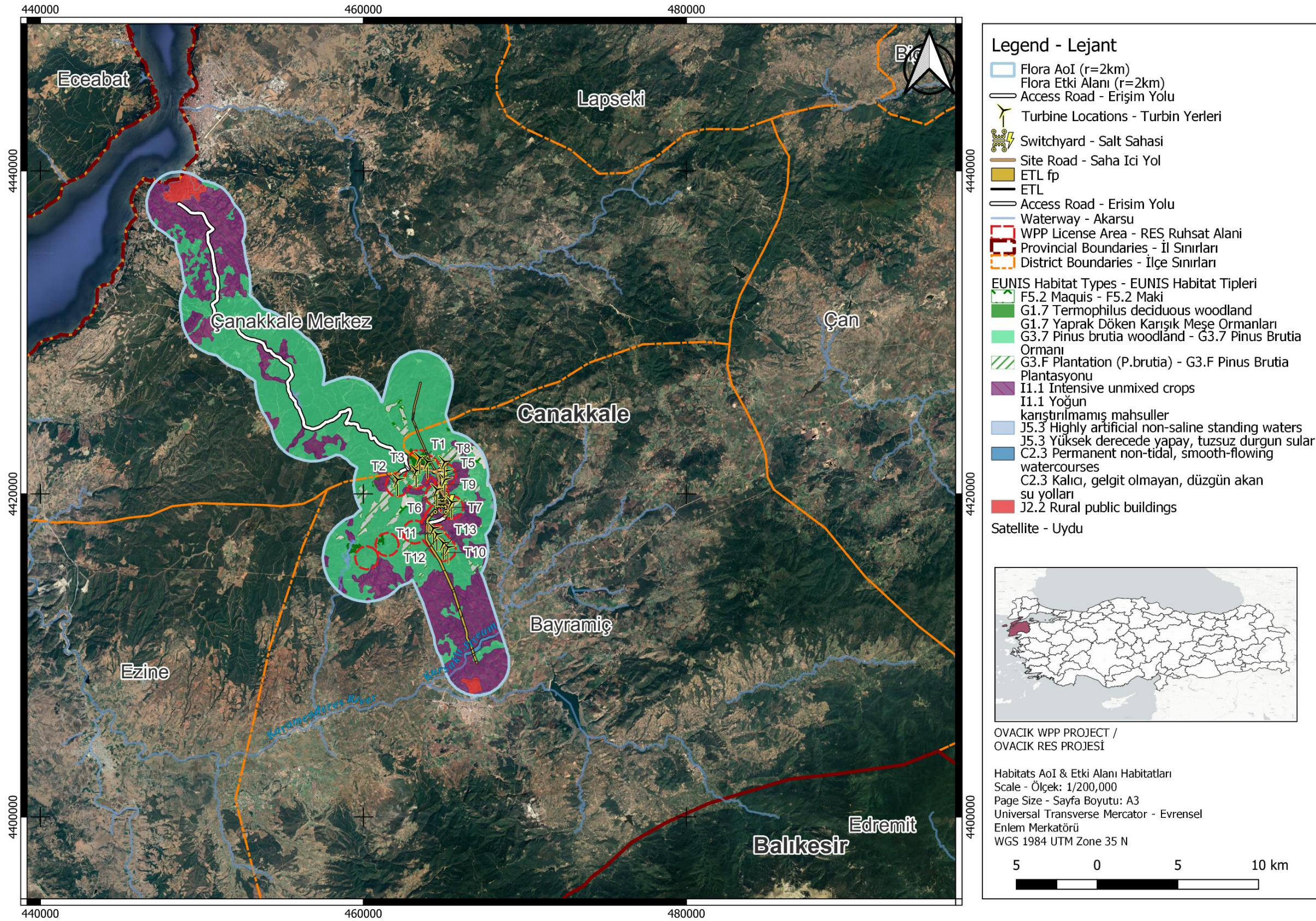
Figure 3.1: EUNIS Habitat Types of AoI

Table 3-7: The endemic species in the Project area and their coordinates

Taxon	IUCN/National Red List Category*	Coordination
Regional Endemic Species		
1 *Crocus candidus*	VU*	35 S 461442N 4416854 D
Widespread Endemic Species		
1 *Centaurea olympica*	LC*	35 S 4647282N 4419782 D
		35 S 464400N 4417409 D
		35 S 463186N 4417663 D
2 *Campanula lyrate subsp. Lyrate*	LC*	35 S 465455N 4419147 D
3 *Stachys cretica subsp. Smyrnaea*	LC*	35 S 463186N 4417663 D

3.3 Birds

The Project area is located close to minor migratory routes of birds, namely the Dardanelles Aegean shore routes[14],[15].

Target species are provided on Table 3-8:

Table 3-8: List of significant species and conservation status and whether they were observed in National EIA or are indicated in literature (L/O)[16][17].

English name	Scientific name	IUCN	National	Bird directive	BERN	L/O
Levant Sparrowhawk	*Accipiter brevipes*	LC	VU	Annex I	Appendix II	L
Northern Goshawk	*Accipiter gentilis*	LC	NT	-	Appendix II	L
Eurasian Sparrowhawk	*Accipiter nisus*	LC	NT	-	Appendix II	O
Cinereous Vulture	*Aegypius monachus*	NT	EN	Annex I	Appendix II	L
Meadow Pipit	*Anthus pratensis*	NT	-	-	Appendix II	L
Golden Eagle	*Aquila chrysaetos*	LC	-	Annex I	Appendix II	O
Imperial Eagle	*Aquila heliaca*	VU	EN	Annex I	Appendix II	O
Gray Heron	*Ardea cinerea*	LC	-	-	Appendix III	O
Purple Heron	*Ardea purpurea*	LC	VU	Annex I	Appendix II	O
Eurasian Eagle-Owl	*Bubo bubo*	LC	-	Annex I	Appendix II	L
Common Buzzard	*Buteo buteo*	LC	-	-	Appendix II	O
Rough-legged Hawk	*Buteo lagopus*	LC	-	-	Appendix II	L
Long-legged Buzzard	*Buteo rufinus*	LC	NT	Annex I	Appendix II	O
White Stork	*Ciconia ciconia*	LC	-	Annex I	Appendix II	O
Black Stork	*Ciconia nigra*	LC	-	Annex I	Appendix II	O
Short-toed Snake-Eagle	*Circaetus gallicus*	LC	VU	Annex I	Appendix II	O

[14] UYSAL, İ., & TOSUNOĞLU, M., (2016). The Bird Migration Routes on the Gelibolu Peninsula and the Effects of Wind Energy Plants . 5th International Eurasian Ornithology Congress, Vol. V (pp.44). Çanakkale, Turkey

[15] Erciyas Yavuz, K. 2014. Turkiye'deki Kus Hareketliligi Haritalari; movebank.org and eBird data.

[16] Compiled from eBird, National EIA studies, studies at nearby wind farms and other grey literature.

[17] National status: Kirwan, G., Demirci, B., Welch, H., Boyla, K., Özen, M., Castell, P., & Marlow, T. 2008. *The Birds of Turkey.*

English name	Scientific name	IUCN	National	Bird directive	BERN	L/O
Eurasian Marsh-Harrier	*Circus aeruginosus*	LC	NT	Annex I	Appendix II	O
Hen Harrier	*Circus cyaneus*	LC	DD	Annex I	Appendix II	L
Pallid Harrier	*Circus macrourus*	NT	CR	Annex I	Appendix II	L
Montagu's Harrier	*Circus pygargus*	LC	EN	Annex I	Appendix II	L
Greater Spotted Eagle	*Clanga clanga*	VU	VU	Annex I	Appendix II	O
Lesser Spotted Eagle	*Clanga pomarina*	LC	EN	Annex I	Appendix II	O
Black-winged Kite	*Elanus caeruleus*	LC	-	Annex I	Appendix II	L
Lanner Falcon	*Falco biarmicus*	LC	VU	Annex I	Appendix II	L
Saker Falcon	*Falco cherrug*	EN	CR	Annex I	Appendix II	L
Merlin	*Falco columbarius*	LC	-	Annex I	Appendix II	L
Eleonora's Falcon	*Falco eleonorae*	LC	EN	Annex I	Appendix II	L
Lesser Kestrel	*Falco naumanni*	LC	VU	Annex I	Appendix II	L
Peregrine Falcon	*Falco peregrinus*	LC	VU	Annex I	Appendix II	O
Eurasian Hobby	*Falco subbuteo*	LC	-	-	Appendix II	O
Eurasian Kestrel	*Falco tinnunculus*	LC	-	-	Appendix II	O
Red-footed Falcon	*Falco vespertinus*	VU	-	Annex I	Appendix II	O
Bearded Vulture	*Gypaetus barbatus*	NT	EN	Annex I	Appendix II	L
Eurasian Griffon	*Gyps fulvus*	LC	EN	Annex I	Appendix II	L
White-tailed Eagle	*Haliaeetus albicilla*	LC	CR	Annex I	Appendix II	L
Booted Eagle	*Hieraaetus pennatus*	LC	VU	Annex I	Appendix II	O
Black Kite	*Milvus migrans*	LC	EN	Annex I	Appendix II	O
Red Kite	*Milvus milvus*	LC	DD	Annex I	Appendix II	L
Egyptian Vulture	*Neophron percnopterus*	EN	VU	Annex I	Appendix II	L
Osprey	*Pandion haliaetus*	LC	DD	Annex I	Appendix II	L
Dalmatian Pelican	*Pelecanus crispus*	NT	VU	Annex I	Appendix II	L
Great White Pelican	*Pelecanus onocrotalus*	LC	EN	Annex I	Appendix II	L
European Honey-buzzard	*Pernis apivorus*	LC	NT	Annex I	Appendix II	O
Eurasian Spoonbill	*Platalea leucorodia*	LC	EN	Annex I	Appendix II	L
Glossy Ibis	*Plegadis falcinellus*	LC	EN	Annex I	Appendix II	L
Krüper's Nuthatch	*Sitta krueperi*	LC	-	Annex I	Appendix II	O
European Turtle-Dove	*Streptopelia turtur*	VU	VU	Annex II B	Appendix III	O
Redwing	*Turdus iliacus*	NT	-	Annex II B	Appendix III	L

*L: Literature, O: Observation

3.4 Bats

A list of bat species, their conservation status, collision risk and whether they were observed in National EIA (O) or at other wind farms nearby / indicated in literature (L) are provided in Table 3-9.

Table 3-9: List of bat species of the Project area with their conservation status, collision risk

Common Name	Scientific Name	IUCN Global	IUCN Eu	IUCN Med	Bern	EU Habitat Directive	L/O	Collision Risk
Western Barbastelle	*Barbastella barbastellus*	NT	VU	NT	I, II	II, IV	L	Medium
Anatolian Serotine	*Eptesicus anatolicus*	LC	-	-	II	IV	-	Medium
Botta's Serotine	*Eptesicus bottae*	LC	-	LC	II	IV	-	Medium
Serotine	*Eptesicus serotinus*	LC	-	-	I, II	IV	O	Medium
Savi's Pipistrelle	*Hypsugo savii*	LC	LC	LC	II	IV	O	High
Schreiber's Bent-winged Bat	*Miniopterus schreibersii*	VU	-	-	I, II	II, IV	O	High
Alcathoe Bat	*Myotis alcathoe*	DD	-	-	I, II	IV	L	Low
Steppe Whiskered Bat	*Myotis aurascens*	LC	LC	LC	I, II	IV	L	Low
Bechstein's Myotis	*Myotis bechsteinii*	NT	VU	NT	I, II	II, IV	L	Low
Lesser Mouse-eared Myotis	*Myotis blythii*	LC	NT	NT	II	II, IV	L	Low
Brandt's Myotis	*Myotis brandtii*	LC	-	-	II	IV	-	Low
Long-fingered Bat	*Myotis capaccinii*	VU	VU	VU	II	II, IV	L	Low
Daubenton's Myotis	*Myotis daubentonii*	LC	-	-	II	IV	L	Low
Geoffroy's Bat	*Myotis emarginatus*	LC	LC	LC	II	II, IV	L	Low
Greater Mouse-eared Bat	*Myotis myotis*	LC	LC	LC	III	II, IV	O	Low
Whiskered Myotis	*Myotis mystacinus*	LC	LC	LC	II	IV	L	Low
Natterer's Bat	*Myotis nattereri*	LC	-	-	II	IV	L	Low
Schaub's Myotis	*Myotis schaubi*	DD	-	DD	I, II	IV	-	Low
Giant Noctule	*Nyctalus lasiopterus*	VU	DD	NT	I, II	IV	O	High
Lesser Noctule	*Nyctalus leisleri*	LC	LC	LC	I, II	IV	O	High
Noctule	*Nyctalus noctula*	LC	LC	LC	I, II	IV	O	High
Desert Long-eared Bat	*Otonycteris hemprichii*	LC	-	-	I, II	IV	-	Unknown
Kuhl's Pipistrelle	*Pipistrellus kuhlii*	LC	LC	LC	II	IV	O	High
Nathusius' Pipistrelle	*Pipistrellus nathusii*	LC	LC	LC	II	IV	O	High
Common Pipistrelle	*Pipistrellus pipistrellus*	LC	-	-	II	IV	O	High
Soprano Pipistrelle	*Pipistrellus pygmaeus*	LC	LC	LC	II	IV	O	High
Brown Long-eared Bat	*Plecotus auritus*	LC	-	-	II	IV	L	Low

Common Name	Scientific Name	IUCN Global	IUCN Eu	IUCN Med	Bern	EU Habitat Directive	L/O	Collision Risk
Gray Long-eared Bat	*Plecotus austriacus*	NT	NT	0	II	IV	O	Low
Mediterranean Long-eared Bat	*Plecotus kolombatovici*	LC	NT	LC	II	IV	L	Low
Mountain Long-eared Bat	*Plecotus macrobullaris*	LC	NT	NT	II	IV	L	Low
Blasius's Horseshoe Bat	*Rhinolophus blasii*	LC	VU	NT	II	II, IV	L	Low
Mediterranean Horseshoe Bat	*Rhinolophus euryale*	NT	VU	VU	II	II, IV	L	Low
Greater Horseshoe Bat	*Rhinolophus ferrumequinum*	LC	NT	NT	II	II, IV	L	Low
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	LC	NT	NT	II	II, IV	L	Low
Mehely's Horseshoe Bat	*Rhinolophus mehelyi*	VU	VU	VU	II	II, IV	L	Low
Egyptian Fruit Bat	*Rousettus aegyptiacus*	LC	-	NT	II	II, IV	-	Low
European Free-tailed Bat	*Tadarida teniotis*	LC	LC	LC	II	IV	O	High
Naked-rumped Tomb Bat	*Taphozous nudiventris*	LC	-	LC	II	IV	-	Unknown
Particoloured Bat	*Vespertilio murinus*	LC	LC	-	II	IV	O	High

*L: Literature, O: Observation

3.5 Terrestrial fauna (non-bat mammals, reptiles, amphibians)

A list of significant species is provided in Table 3-10.

Table 3-10: List of significant terrestrial fauna for the Project area

Common Name	Scientific Name	IUCN	BERN	Habitats directive	L/O
Common tortoise	*Testudo graeca*	VU	Appendix I-II	Appendix II-IV	O
Roe deer	*Capreolus capreolus*	LC	Appendix III	-	O
Marbled polecat	*Vormela peregusna*	VU	Appendix I-II	Appendix II-IV	L
Mouse-tailed Dormouse	*Myomimus roachi*	VU	Appendix I-II-III	Appendix II-IV	L
Brown Bear	*Ursus arctos*	LC	Appendix I-II	Appendix II-IV	O

*L: Literature, O: Observation

3.6 Invertebrates

Ottoman's Copper (*Lycaena ottomana*) is VU globally according to its arguably dated assessment in IUCN in 2000. Its habitat preference is low altitude, coastal maquis and woodland clearings in the region, favouring wet valley floors. Its preferred host species is *Rumex* genus, which is widespread and common. The most recent assessment for the species for the Mediterranean is more recent (2013) which is LC, and the species conservation status nationally is currently being updated by the foremost butterfly experts of Turkiye, due to recent studies establishing its populations are robust and the species is common (in litt).

Big-Bellied Glandular Bush-Cricket (*Bradyporus macrogaster*) is found in forest, scrub and grassland habitats at altitudes ranging from 0 to 1,270 metres.The species inhabits steppe-like habitats dominated by xeric grasses and sparse scrub, in some areas like the Aegean coast of Anatolia it enters Mediterranean vegetation, such as sparse xerothermic oak forests or scrub or mesoxeric grass associations. The species prefers sparse vegetation cover areas in terms of forest and shrub areas. The Project AoI does not include these type of vegetation cover.

4   Critical Habitat Assessment

Evaluation against each criterion is carried out in table format which includes potential trigger species, their IUCN status, relation to the Project AoA, observation status in the AoA and summary of findings. Potential species were selected in line with the CHA Criteria from literature and survey findings. For Criterion 1 to 3, in case of the limited information to estimate numbers of individuals of potentially qualifying species within the AoA, expert opinion has been applied to evaluate the importance of the identified potential Critical Habitat in terms of global populations. The EOO of species has been applied as a surrogate for local population data. This means that a precautionary approach was applied in the evaluation against PS6 thresholds. Global EOO information was obtained from the IUCN Red List Database which covers all of the potential Critical Habitat trigger species. In some cases, the presence of species in the AoA has been inferred based on habitat suitability and in cases where presence has been confirmed, the distribution within the species range and project AoA has been assumed. This results in a conservative Critical Habitat evaluation.

4.1   Criteria 1-3: Species Biodiversity Values

For Criterion 1, CR, EN and VU species were examined whether the Project area supports more than 0.5% globally important concentrations of these species or whether the Project could lead to a decrease in population of species categorized as VU. For this examination, both national and international categories of these species were considered. For Criterion 3, migratory species were examined whether the Project area sustains more than 1% of global population in a regular basis or whether the area supports more than 10% of the global population of the species during environmental stress period. Estimations for criterion 3 are based on more comprehensive Vantage Point counts conducted at nearby wind farms with comparable locations (with respect to migratory routes for migrants) and habitat characteristics (for residents) by The Consultant. To arrive at a rough estimate, total daylight hours in a year (for residents) and total daylight hours in both migratory periods (for migrants) was taken into consideration.

The global population, the EOO and the Project area were considered to estimate the global range of species in AoI to assign Critical Habitat trigger status of species based on Criterion 1 and 3. When the observed number of species was unknown or species information was obtained from literature; the global population, the EOO and the Project area were considered to estimate the global range of species in AoI to assign Critical Habitat trigger status of species based on Criterion 1 and 3. Otherwise, the observed individual numbers were used to estimate migrant population on an annual basis and compared with the global population to design Critical Habitat trigger status.

For bat species, since both Bat Activity Index is unavailable from the Project area (or a nearby comparable project), and population (global and regional) data are very limited, it is not feasible to undertake CHA based on population sizes and predicted impact on populations. Therefore, all available information was gathered for the species which were observed or clearly indicated in literature for the area, and Priority Biodiversity Feature designations were made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. Species which scored 2 or 3 were included as Priority Biodiversity Feature (PBF).

For plant species, since global population and population data within the AoI were not available, the Braun-Blanquet cover percentage scale data used by the flora expert in the National EIA process were used in the approach.

Table 4-1: Plant Species CHA – Criteria 1-2

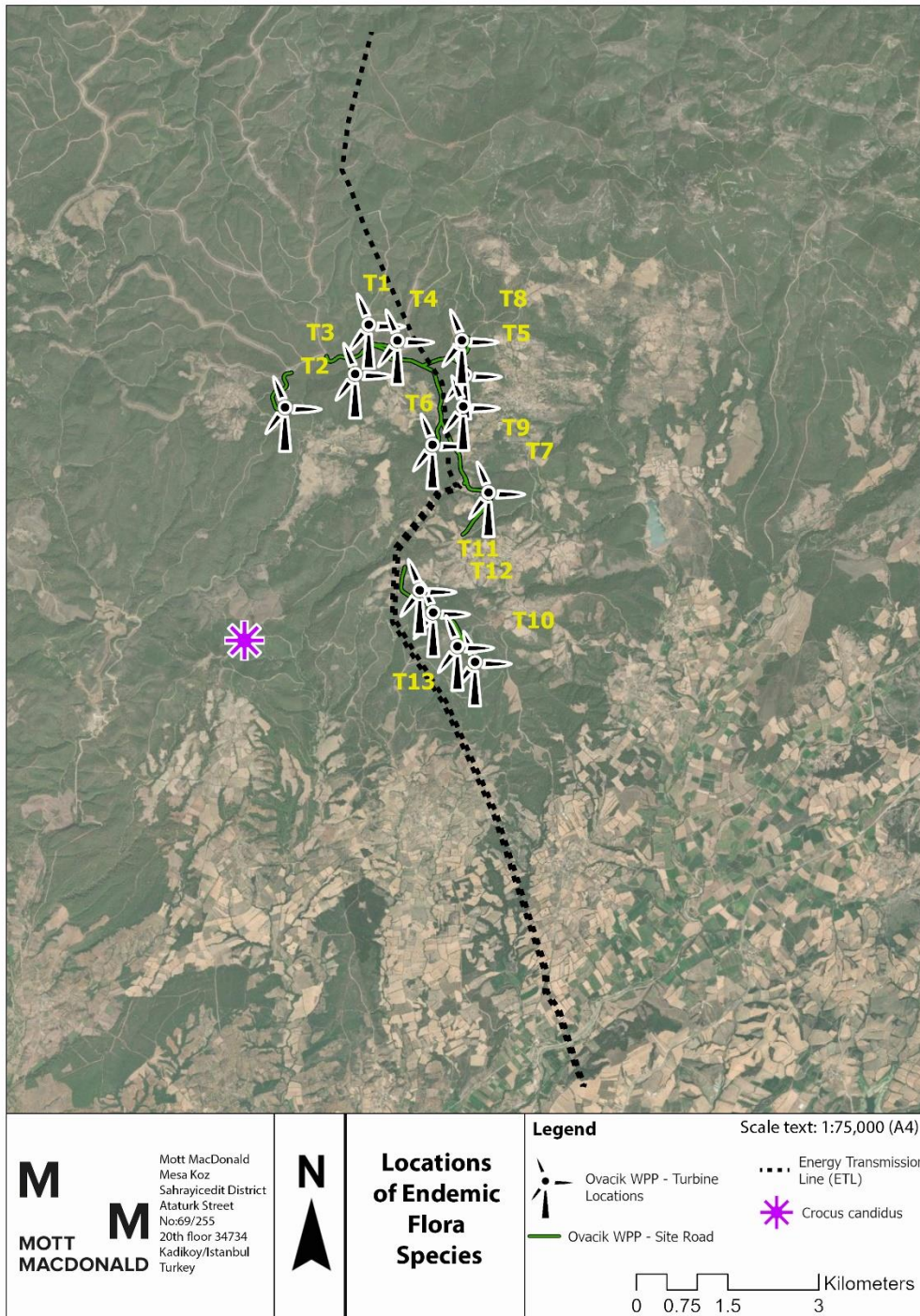| Scientific Name	IUCN/ National Red List	BERN	Extent of Occurrence (EOO) (km²)*	L/ O	Evaluation	CH Trigger or Priority Biodiversity Feature (PBF)
Crocus candidus	VU*	-	-	O	Given the species was observed during field studies, it can be considered as critical habitat trigger species. However, this assessment is difficult as the lack of knowledge about the population status. The only information of population status of the species is cover percentage between 5% and 25% at the Project AoI. It was assumed that it would be not a critical habitat trigger. The species is not expected to be directly affected by the project works due to its location. Accordingly, it is not defined as PBF.	Not CH Trigger
Centaurea olympica	LC*	-	-	O	Even though the species observed in the field studies, it is not a critical habitat trigger under Criteria 1 and 2 since the species is in the LC category and widespread endemic.	Not CH Trigger
Campanula lyrate subsp. Lyrate	LC*	-	-	O	Even though the species observed in the field studies, it is not a critical habitat trigger under Criteria 1 and 2 since the species is in the LC category and widespread endemic.	Not CH Trigger
Stachys cretica subsp. smyrnaea	LC*		-	O	Even though the species observed in the field studies, it is not a critical habitat trigger under Criteria 1 and 2 since the species is in the LC category and widespread endemic.	Not CH Trigger

Figure 4.1: Location of the Target Species

Table 4-2: CHA for Bird Species depends on Criteria 1-3

Common name	Scientific name	IUCN	National	Bird dir	RFRN	Global population	Population Status	Estimated EOO (km²)	Observed	Estimated	Cr 1,3 % Global Range in AoA	Evaluation	CH /PBF
Eurasian Sparrowhawk	*Accipiter nisus*	LC	NT	-	II	2000000-3200000	Stable	54400000	69	261	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 261. For Cr3, the EAAA should support 20000 individuals, so the species does not qualify for this criteria.	Not trigger
Golden Eagle	*Aquila chrysaetos*	LC	-	I	II	85000-160000	Stable	139000000	20	11	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 11. For Cr3, the EAAA should support 850 individuals, so the species does not qualify for this criteria.	Not trigger
Imperial Eagle	*Aquila heliaca*	VU	EN	I	II	2500-9999	Decreasing	14900000	18	12	0.5	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 12. For Cr3, the EAAA should support 25 individuals, so the species does not qualify for this criteria. The recorded numbers during the National EIA are considered high and might be an irregularity, and long-term presence of the species is not expected to be such. The nearest nest is in Gelibolu Peninsula outside of the EAAA, and the rest of the resident range of the species is Thracian Turkiye. PBF was designated as a precaution since a high number was recorded in National EIA, due to its national conservation significance and propensity for mortality at WPPs. Assessment to be reconsidered after 2024 baseline.	**PBF**
Gray Heron	*Ardea cinerea*	LC	-	-	II	500000-2500000	Unknown	136000000	54	180	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 180. For Cr3, the EAAA should support 5000 individuals, so the species does not qualify for this criteria.	Not trigger
Purple Heron	*Ardea purpurea*	LC	VU	I	II	180000-380000	Decreasing	109000000	1	1	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 1. For Cr3, the EAAA should support 1800 individuals, so the species does not qualify for this criteria.	Not trigger
Common Buzzard	*Buteo buteo*	LC	-	-	II	2000000-3500000	Increasing	33500000	492	2251	0.1	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 2251. For Cr3, the EAAA should support 20000 individuals, so the species does not qualify for this criteria.	Not trigger
Long-legged Buzzard	*Buteo rufinus*	LC	NT	I	II	100000-499999	Stable	32300000	32	85	0.1	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 85. For Cr3, the EAAA should support 1000 individuals, so the species does not qualify for this criteria.	Not trigger
White Stork	*Ciconia ciconia*	LC	-	I	II	700000-704000	Increasing	52700000	767	3643	0.5	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 3643. For Cr3, the EAAA should support 7000 individuals, so the species does not qualify for this criteria.	Not trigger
Black Stork	*Ciconia nigra*	LC	-	I	II	24000-44000	Unknown	25100000	56	151	0.6	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 151. For Cr3, the EAAA should support 240 individuals, so the species does not qualify for this criteria.	Not trigger
Short-toed Snake-Eagle	*Circaetus gallicus*	LC	VU	I	II	50000-99999	Stable	48800000	78	593	1.2	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 593. For Cr3, the EAAA should support 500 individuals, so the species qualifies for this criteria. However the National EIA does not make it clear whether the species activity pertained to migrant or repeated resident activity. A precautionary PBF designation is made which should be re-assessed following 2024 baseline.	**PBF / Potential Cr3**

Common name	Scientific name	IUCN	National	Bird dir	BERN	Global population	Population Status	Estimated EOO (km²)	Observed	Estimated	Cr 1,3 % Global Range in AoA	Evaluation	CH /PBF
Eurasian Marsh-Harrier	*Circus aeruginosus*	LC	NT	I	II	600000-1100000	Stable	24800000	20	45	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 45. For Cr3, the EAAA should support 6000 individuals, so the species does not qualify for this criteria.	Not trigger
Greater Spotted Eagle	*Clanga clanga*	VU	VU	I	II	3900-10000	Decreasing	15300000	4	4	0.1	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 3. For Cr3, the EAAA should support 39 individuals, so the species does not qualify for this criteria. The counts from National EIA are considered high counts and are not expected to reflect long-term trends. PBF designation was not considered since the Project EAAA does not constitute a significant area for breeding or wintering activities.	No trigger
Lesser Spotted Eagle	*Clanga pomarina*	LC	EN	I	II	40000-60000	Stable	6550000	121	496	1.2	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 496. For Cr3, the EAAA should support 400 individuals, so the species qualifies for this criteria. Counts from the National EIA are high compared to nearby WPPs also situated on the Çanakkale mountains. PBF is designated with the potential for Cr3, activity should be confirmed during 2024 baseline, designation should be reconsidered.	**PBF / Potential Cr3**
Peregrine Falcon	*Falco peregrinus*	LC	VU	I	II	100000-499999	Increasing	413000000	4	5	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 5. For Cr3, the EAAA should support 1000 individuals, so the species does not qualify for this criteria.	Not trigger
Eurasian Hobby	*Falco subbuteo*	LC	-	-	II	900000-1500000	Decreasing	49300000	45	49	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 49. For Cr3, the EAAA should support 9000 individuals, so the species does not qualify for this criteria.	Not trigger
Eurasian Kestrel	*Falco tinnunculus*	LC	-	-	II	4300000-6700000	Decreasing	106000000	132	143	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 143. For Cr3, the EAAA should support 43000 individuals, so the species does not qualify for this criteria.	Not trigger
Red-footed Falcon	*Falco vespertinus*	VU	-	I	II	287500-400000	Decreasing	33600000	10	40	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 40. For Cr3, the EAAA should support 2875 individuals, so the species does not qualify for this criteria. Favourable conditions for hunting opportunities during migration can direct high numbers of individuals to certain areas, these conditions are generally unpredictable (season, weather, availability of prey). Given the species global conservation status, PBF designation was made.	**PBF**
Booted Eagle	*Hieraaetus pennatus*	LC	VU	I	II	150000-195000	Stable	62000000	36	76	0.1	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 76. For Cr3, the EAAA should support 1500 individuals, so the species does not qualify for this criteria.	Not trigger
Black Kite	*Milvus migrans*	LC	EN	I	II	4000000-5700000	Stable	115653659	106	267	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 267. For Cr3, the EAAA should support 40000 individuals, so the species does not qualify for this criteria.	Not trigger
European Honey-buzzard	*Pernis apivorus*	LC	NT	I	II	290000-430000	Stable	18200000	126	417	0.1	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 417. For Cr3, the EAAA should support 2900 individuals, so the species does not qualify for this criteria.	Not trigger

Common name	Scientific name	IUCN	National	Bird dir	RFRN	Global population	Population Status	Estimated EOO (km²)	Observed	Estimated	Cr 1,3 % Global Range in AoA	Evaluation	CH /PBF
European Turtle-Dove	*Streptopelia turtur*	VU	VU	IIB	II	12800000-47600000	Decreasing	7080000	83	203	0.0	The EAAA should support at least 1 percent of global population of species to have Critical Habitat trigger species based on Criteria 3. Estimated number of individuals supported throughout the year is 203. For Cr3, the EAAA should support 128000 individuals, so the species does not qualify for this criteria. PBF was designated due to global conservation significance. Designation should be reconsidered after 2024 baseline which is likely to confirm that the Project AoI is not significant for migratory or breeding activity.	**PBF**

Table 4-3: CHA for Bat Species depends on Criteria 1-3

Common Name	Scientific Name	IUCN Global	IUCN Eu	IUCN Med	Bern	EU Habitat Directive	L/O	Collision Risk	Migratory status	Population Status	Global Population	Estimated EOO (km²)	Evaluation	CH /PBF
Western Barbastelle	*Barbastella barbastellus*	NT	VU	NT	I, II	II, IV	L	Medium	Mostly sedentary	Declining	Unknown	12455378	0.5	Not trigger
Serotine	*Eptesicus serotinus*	LC	-	-	I, II	IV	O	Medium	mostly sedentary	Stable	Unknown	Unknown	0.5	Not trigger
Savi's Pipistrelle	*Hypsugo savii*	LC	LC	LC	II	IV	O	High	Probably migrant	Stable	Unknown	15658670	2	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**
Schreiber's Bent-winged Bat	*Miniopterus schreibersii*	VU			I, II	II, IV	O	High	Mid and long-range migrant	Declining	Unknown	19946710	3	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 3, it will be considered as **PBF.**
Alcathoe Bat	*Myotis alcathoe*	DD	-	-	I, II	IV	L	Low	-	Unknown	Unknown	2860473	0	Not trigger
Steppe Whiskered Bat	*Myotis aurascens*	LC	LC	LC	I, II	IV	L	Low	-	Stable	Unknown	4766158	0	Not trigger
Bechstein's Myotis	*Myotis bechsteinii*	NT	VU	NT	I, II	II, IV	L	Low	mostly sedentary	Declining	Unknown	6640673	0	Not trigger
Lesser Mouse-eared Myotis	*Myotis blythii*	LC	NT	NT	II	II, IV	L	Low	mostly sedentary	Declining	Unknown	23471950	0	Not trigger
Long-fingered Bat	*Myotis capaccinii*	VU	VU	VU	II	II, IV	L	Low	Mid-range seasonal migrant	Declining	Unknown	5387022	2, KBA trigger	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**
Daubenton's Myotis	*Myotis daubentonii*	LC	-	-	II	IV	L	Low	Facultative migrant	Stable	Unknown	Unknown	1	Not trigger
Geoffroy's Bat	*Myotis emarginatus*	LC	LC	LC	II	II, IV	L	Low	mostly sedentary	Stable	Unknown	15654608	0	Not trigger
Greater Mouse-eared Bat	*Myotis myotis*	LC	LC	LC	III	II, IV	O	Low	Mid-range migrant	Stable	Unknown	7071111	1	Not trigger
Whiskered Myotis	*Myotis mystacinus*	LC	LC	LC	II	IV	L	Low	mostly sedentary	Unknown	Unknown	13823224	0	Not trigger
Natterer's Bat	*Myotis nattereri*	LC	-	-	II	IV	L	Low	Facultative migrant	Stable	Unknown	16030693	1	Not trigger
Giant Noctule	*Nyctalus lasiopterus*	VU	DD	NT	I, II	IV	O	High	Long distance migrant	Declining	0-9999	8955906	3	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 3, it will be considered as **PBF.**
Lesser Noctule	*Nyctalus leisleri*	LC	LC	LC	I, II	IV	O	High	Long distance migrant	Unknown	Unknown	20171114	2	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**
Noctule	*Nyctalus noctula*	LC	LC	LC	I, II	IV	O	High	Long distance migrant	Unknown	Unknown	24101079	2	Assessment was made based on assigning one point each for the following criteria: (1) conservation status

Common Name	Scientific Name	IUCN Global	IUCN Eu	IUCN Med	Bern	EU Habitat Directive	L/O	Collision Risk	Migratory status	Population Status	Global Population	Estimated EOO (km²)	Evaluation	CH /PBF
														is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**
Kuhl's Pipistrelle	*Pipistrellus kuhlii*	LC	LC	LC	II	IV	O	High	Sedentary	Unknown	Unknown	51385949	1	Not trigger
Nathusius' Pipistrelle	*Pipistrellus nathusii*	LC	LC	LC	II	IV	O	High	Long distance migrant	Unknown	Unknown	11175990	2	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**
Common Pipistrelle	*Pipistrellus pipistrellus*	LC	-	-	II	IV	O	High	Long distance migrant	Stable	Unknown	Unknown	2	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**
Soprano Pipistrelle	*Pipistrellus pygmaeus*	LC	LC	LC	II	IV	O	High	Probably migrant	Unknown	Unknown	10673041	2	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**
Brown Long-eared Bat	*Plecotus auritus*	LC	-	-	II	IV	L	Low	Sedentary	Stable	Unknown	12039091	0	Not trigger
Gray Long-eared Bat	*Plecotus austriacus*	NT	NT	0	II	IV	O	Low	Sedentary	Declining	Unknown	6047987	0	Not trigger
Mediterranean Long-eared Bat	*Plecotus kolombatovici*	LC	NT	LC	II	IV	L	Low	Sedentary	Declining	Unknown	Unknown	0	Not trigger
Mountain Long-eared Bat	*Plecotus macrobullaris*	LC	NT	NT	II	IV	L	Low	Sedentary	Declining	Unknown	4767971	0	Not trigger
Blasius's Horseshoe Bat	*Rhinolophus blasii*	LC	VU	NT	II	II, IV	L	Low	Mostly sedentary	Declining	Unknown	8849478	0	Not trigger
Mediterranean Horseshoe Bat	*Rhinolophus euryale*	NT	VU	VU	II	II, IV	L	Low	Sedentary	Declining	Unknown	10858126	0	Not trigger
Greater Horseshoe Bat	*Rhinolophus ferrumequinum*	LC	NT	NT	II	II, IV	L	Low	Mostly sedentary	Declining	Unknown	Unknown	0	Not trigger
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	LC	NT	NT	II	II, IV	L	Low	Mostly sedentary	Declining	Unknown	22157273	0	Not trigger
Mehely's Horseshoe Bat	*Rhinolophus mehelyi*	VU	VU	VU	II	II, IV	L	Low	mostly sedentary	Declining	Unknown	18885688	1, but KBA trigger	Regardless of the evaluation score, the species is KBA Trigger. **PBF**
European Free-tailed Bat	*Tadarida teniotis*	LC	LC	LC	II	IV	O	High	probably sedentary	Unknown	Unknown	18885688	1	Not trigger
Particoloured Bat	*Vespertilio murinus*	LC	LC	-	II	IV	O	High	Long distance migrant	Stable	Unknown	25697109	2	Assessment was made based on assigning one point each for the following criteria: (1) conservation status is VU or higher, (2) collision risk is high (half point for medium) and (3) species is a mid or long-distance migrant. As the species scored 2, it will be considered as **PBF.**

Table 4-4: CHA for Terrestrial Fauna Species depends on Criteria 1-3

Common Name	Scientific Name	IUCN	BERN	Habitats directive	L/O	Global Population	Population Status	Estimated EOO (km²)	Cr 1,3 %Global Range in AoI	Evaluation	CH Trigger or Not
Common tortoise	*Testudo graeca*	VU	Appendix I-II	Appendix II-IV	O	Unknown	Unknown	Unknown	-	Due to the lack of information on the population status of the species, it is difficult to provide an assessment of whether the species critical habitat trigger or not. Since the IUCN category is VU, it has been evaluated as a priority biodiversity feature under Criterion 1b.	**PBF**
Brown bear	*Ursus arctos*	LC (Med.VU)	Appendix I-II	Appendix II-IV	O	110000	Stable	-	-	Due to the lack of information on the population status of the species, it is difficult to provide an assessment of whether the species critical habitat trigger or not. Since the IUCN category is VU for Mediterranean region, it has been evaluated as a priority biodiversity feature under Criterion 1b.	**PBF**

Table 4-5: CHA for Invertebrate Species depends on Criteria 1-3

Common Name	Scientific Name	IUCN	BERN	Habitats directive	L/O	Global Population	Population Status	Estimated EOO (km²)	Cr 1,3 %Global Range in AoI	Evaluation	CH Trigger or Not
Ottoman's Copper	*Lycaena ottomana*	LC	-	-	L	Unknown	Stable	Unknown	-	Species is common and populations are robust in Turkiye and the Mediterranean. Located on a mountain ridge, Project AoI does not overlap the preferred habitat of the species.	Not trigger
Big-Bellied Glandular Bush-Cricket	*Bradyporus macrogaster*	EN	-	-	L	Unknown	Decreasing	200000	-	Big-Bellied Glandular Bush-Cricket is found in forest, scrub and grassland habitats at altitudes ranging from 0 to 1,270 metres. The species inhabits steppe-like habitats dominated by xeric grasses and sparse scrub, in some areas like the Aegean coast of Anatolia it enters Mediterranean vegetation, such as sparse xerothermic oak forests or scrub or mesoxeric grass associations. The species prefers sparse vegetation cover areas in terms of forest and shrub areas. The Project AoI does not include these type of habitats. Thus, the species is not considered as critical habitat trigger species.	Not Trigger

4.2 Criterion 4: Highly Threatened / Unique Ecosystems

Based on EUNIS level 3, six habitat types were determined based on desk study and field observation. None of these habitat types are listed in Annex I of the EU Habitats Directive.

Table 4-6: Criterion 4- Highly Threatened / Unique Ecosystems Assessment

Broad habitat type	EUNIS Habitat Type	EU Habitat Directive Annex I	IUCN	Evaluation	CH Trigger or Not
Woodland	G3.7 *Pinus brutia* woodland	+ (9540) Not Priority	LC	Thishabitat is not prioritized according to the EU directive, , it is not defined as critical habitat.	Not Trigger
	G3.F Plantation (*P.brutia*)	-	-	It is not a critical habitat trigger area as it has been modified and does not have any conservation priority.	Not Trigger
Shrubland	F5.2 Maquis	-	LC	The habitat does not have any conservation priority.	Not Trigger

4.3 Criterion 5: Key Evolutionary Processes

The Project area is located within the Mediterranean biodiversity hotspot. It is the third richest hotspot globally in terms of plant biodiversity, and amphibian and fish endemism are relatively high too. The hotspot is very large (including 5,000 Mediterranean islands). The highly modified nature of the habitats (most forest areas are presented with code B-it means degraded-) within the EAAA means it is extremely unlikely to qualify as Critical Habitat for Key Evolutionary Processes.

5 CONCLUSION

The present CHA results are presented below. Due to gaps in both white and grey literature, and Project specific baseline, it was evaluated that not enough data exists in order to safely conclude or rule out Critical Habitat triggers. The CHA is therefore preliminary and high level. The biodiversity values that were identified as sensitive are presented below as PBF triggers, with the recommendation that further baseline collection is carried out in 2024. According to the results of enhanced baseline, accurate identification of more CH trigger species will be possible. As such, the present CHA study is expected to be significantly revised with robust, Project specific data.

Based on the CHA, potential Critical Habitat trigger species are given Table 5-1 and PBF are listed in Table 5-2.

Table 5-1 Critical Habitat Trigger Species

Scientific Name	IUCN	CH Trigger Criterion	Source
Bird			
Clanga pomarina		Potential Cr3	Observation
Circaetus gallicus		Potential Cr3	Observation

Table 5-2 PBF

Scientific Name / Habitat Type	IUCN	Source
Bird		
Aquila heliaca	VU (EN)	Observation
Circaetus gallicus	LC (VU)	Literature
Clanga pomarina	LC (EN)	Observation
Falco vespertinus	VU (-)	Literature
Streptopelia turtur	VU (VU)	Literature
Mammal		
Hypsugo savii	LC	Observation
Miniopterus schreibersii	VU	Observation
Myotis capaccinii	VU	Literature
Nyctalus lasiopterus	VU	Observation
Nyctalus leisleri	LC	Observation
Nyctalus noctula	LC	Observation
Pipistrellus nathusii	LC	Observation
Pipistrellus pipistrellus	LC	Observation
Pipistrellus pygmaeus	LC	Observation
Rhinolophus mehelyi	VU	Literature
Vespertilio murinus	LC	Observation
Ursus arctos	LC (VU)	Observation
Reptile		
Testudo graeca	VU	Observation