
CEYHAN PROPANE DEHYDROGENATION - POLYPROPYLENE PRODUCTION PROJECT

CRITICAL HABITAT ASSESSMENT (ANNEX-K)

FEBRUARY 2023

ANKARA

CEYHAN PROPANE DEHYDROGENATION - POLYPROPYLENE PRODUCTION PROJECT

CRITICAL HABITAT ASSESSMENT

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1 SCOPE

This report includes Critical Habitat Assessment (CHA) for Ceyhan Propane Dehydrogenation - Polypropylene Production Facility Project (Ceyhan PDH-PP Project or Project), that has been undertaken in line with IFC Performance Standard (PS) 6 and corresponding Guidance Note (GN) to identify areas which are considered as critical habitats.

This report aims to: identify Critical Habitat-qualifying biodiversity associated with the Project; Natural and Modified Habitat mapping, including mapping Critical Habitat were possible; highlight the implications of the CHA results; and identify the recommended next steps for the Project, including identification of data gaps and the need for additional field surveys.

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 measureable 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.

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

PS6 guides how to best identify three classes of area based on vegetation condition ('quality' or 'state'), and significance for biodiversity (Table 1). PS6 uses the term 'habitat' to refer to these areas, rather than the actual vegetation within them. These three area classes 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 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.

Performance Standard 6 applies to those areas of modified habitat that include significant biodiversity value, as determined by the risks and impacts identification process required in Performance Standard 1. 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; 8 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 Critically Endangered and/or Endangered 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;

Annex-K: Critical Habitat Assessment

- 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 Critically Endangered or Endangered 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 Biodiversity Action Plan and will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated.

2.1 Data Collection

A literature review was performed to understand the baseline conditions of the Project AoA as well as informing the CHA. Primary sources of Project-related information such as ESIA report and other literature sources including reports, articles, etc. related to the site and on-line resources were used to support this study.

Available data has been utilized through the following resources, including but not limited to:

- Key Biodiversity Areas of Turkey
- Red Data Book of Turkish Plants
- IUCN Red List of Threatened Species
- EUNIS Habitat Directive
- BirdLife International Important Bird and Biodiversity Areas (IBAs)
- World Database of Key Biodiversity Areas

Baseline information on terrestrial and marine ecology information has been collected through ecological surveys conducted within the scope of the Environmental and Social Impact Assessment (ESIA) study.

The dates of the field studies carried out are given below

- 26th-27th February 2020
- 20th-21st May 2020
- 28th-29th June 2020
- 27th-28th November 2021

2.2 Identification of Area of Analysis

The information on the region's ecology was carried out to define an ecologically appropriate Area of Analysis (AoA), to determine the presence of features that may qualify for Critical Habitat. The AoA is identified at a scale larger than the project site or impact area itself, considering large-scale ecological processes where appropriate. This approach ensures that all potential risks within the project footprint and surrounding vicinity are taken into consideration.

In this project, two AoAs have been defined as impacts on both terrestrial and marine environment will occur.

The Terrestrial AoA (718 km²) was defined using a combination of topographic information, and legally protected areas and/or internationally recognized areas of high biodiversity value information. The Marine AoA (2,114 km²) was defined based on Iskenderun Gulf.

The map showing the defined AoA is given in Figure 1.

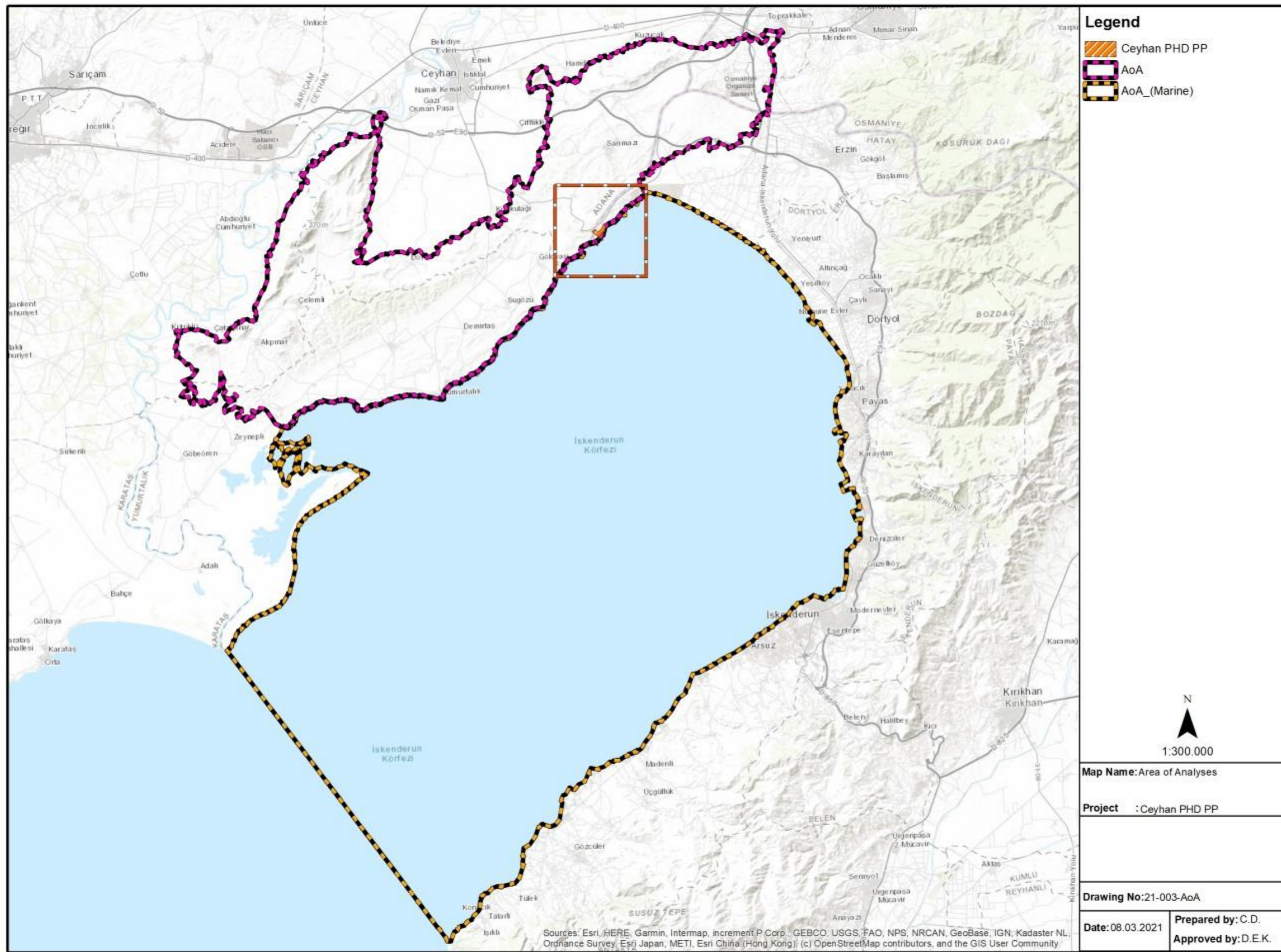


Figure 1. Terrestrial and Marine Area of Analyses

2.3 Critical Habitat Assessment Criteria

Critical habitats are areas of high biodiversity value that include at least one or more of the five values specified in IFC-PS6 and/or other recognized high biodiversity values. Each criterion has the same importance for making critical habitat designations or for determining compliance with PS6. Critical habitat criteria are as follows and should form the basis of any critical habitat assessment:

- Criterion 1: Critically Endangered (CR) and/or Endangered (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 critical habitat assessment. Examples include the following:

- Areas that meet the criteria of the IUCN's Protected Area Categories Ia, Ib and II.
- Key Biodiversity Areas (KBAs), which encompass Important Bird and Biodiversity Areas (IBAs).

Consultation with the relevant national and international organizations that designate some areas is required. These areas should be identified during the assessment of critical habitat and brought to the attention of IFC as early as possible in the financing process. They include the following:

- UNESCO Natural and Mixed World Heritage Sites
- Sites that fit the designation criteria of the Alliance for Zero Extinction (AZE)

2.3.1 Criterion 1: Critically Endangered (CR) and/or Endangered (EN) Species

Species threatened with global extinction and listed as CR and EN on the IUCN *Red List of Threatened Species* shall be considered as part of Criterion 1. Critically Endangered species face an extremely high risk of extinction in the wild. Endangered species face a very high risk of extinction in the wild.

Thresholds for Criterion 1 are the following:

- (a) Areas that support globally important concentrations of an IUCN Red-listed EN or CR species ($\geq 0.5\%$ of the global population and ≥ 5 reproductive units of a CR or EN species).
- (b) Areas that support globally important concentrations of an IUCN Red-listed Vulnerable (VU) species, the loss of which would result in the change of the IUCN Red List status

to EN or CR.

- (c) As appropriate, areas containing important concentrations of a nationally or regionally listed EN or CR species.

2.3.2 Criterion 2: Endemic and/or Restricted-Range Species

For purposes of Criterion 2, the term endemic is defined as restricted-range. Restricted range refers to a limited extent of occurrence (EOO¹).

- For terrestrial vertebrates and plants, restricted-range species are defined as those species that have an EOO less than 50,000 square kilometers (km²).
- For marine systems, restricted-range species are provisionally being considered those with an EOO of less than 100,000 km².
- 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 500 km linear geographic span (i.e., the distance between occupied locations furthest apart).

The threshold for Criterion 2 is the following:

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

2.3.3 Criterion 3: Migratory or Congregatory Species

Migratory species are defined as any species of which a significant proportion of its members cyclically and predictably move from one geographical area to another (including within the same ecosystem). Congregatory species are defined as species whose individuals gather in large groups on a cyclical or otherwise regular and/or predictable basis. Examples include the following:

- Species that form colonies.
- Species that form colonies for breeding purposes and/or where large numbers of individuals of a species gather at the same time for non-breeding purposes (for example, foraging and roosting).
- Species that utilize a bottleneck site where significant numbers of individuals of a species occur in a concentrated period of time (for example, for migration).

¹ **Extent of occurrence** [EOO] is defined as the area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, inferred or projected sites of present occurrence of a taxon, excluding cases of vagrancy (see below Figure 2 IUCN 2012). This measure may exclude discontinuities or disjunctions within the overall distributions of taxa

- Species with large but clumped distributions where a large number of individuals may be concentrated in a single or a few sites while the rest of the species is largely dispersed (for example, wildebeest distributions).
- Source populations where certain sites hold populations of species that make an inordinate contribution to recruitment of the species elsewhere (especially important for marine species).

Thresholds for Criterion 3 are the following:

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

2.3.4 Criterion 4: Highly Threatened or Unique Ecosystems

The IUCN is developing a Red List of Ecosystems, following an approach similar to the Red List for Threatened Species. The client should use the Red List of Ecosystems where formal IUCN assessments have been performed. Where formal IUCN assessments have not been performed, the client may use assessments using systematic methods at the national/regional level, carried out by governmental bodies, recognized academic institutions and/or other relevant qualified organizations (including internationally recognized NGOs).

The thresholds for Criterion 4 are the following:

- a) Areas representing $\geq 5\%$ 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.

2.3.5 Criterion 5: Key Evolutionary Processes

The structural attributes of a region, such as its topography, geology, soil, temperature, and vegetation, and combinations of these variables, can influence the evolutionary processes that give rise to regional configurations of species and ecological properties. In some cases, spatial features that are unique or idiosyncratic of the landscape have been associated with genetically unique populations or subpopulations of plant and animal species. Physical or spatial features have been described as surrogates or spatial catalysts for evolutionary and ecological processes, and such features are often associated with species diversification. Maintaining these key evolutionary processes inherent in a landscape as well as the resulting species (or subpopulations of species) has become a major focus of biodiversity conservation in recent

decades, particularly 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, ensures the evolutionary flexibility in a system, which is especially important in a rapidly changing climate.

For illustrative purposes, some potential examples of spatial features associated with evolutionary processes are as follows:

- Landscapes with high spatial heterogeneity are a driving force in speciation, as species are naturally selected based on their ability to adapt and diversify.
- Environmental gradients, also known as ecotones, produce transitional habitat, which has been associated with the process of speciation and high species and genetic diversity.
- Edaphic interfaces are specific juxtapositions of soil types (for example, serpentine outcrops, limestone, and gypsum deposits), which have led to the formation of unique plant communities characterized by both rarity and endemism.
- Connectivity between habitats (for example, biological corridors) ensures species migration and gene flow, which is especially important in fragmented habitats and for the conservation of metapopulations. This also includes biological corridors across altitudinal and climatic gradients and from “crest to coast.”
- Sites of demonstrated importance to climate change adaptation for either species or ecosystems are also included within this criterion.

The significance of structural attributes in a landscape that may influence evolutionary processes will be determined on a case-by-case basis, and the determination of critical habitat will be heavily reliant on scientific knowledge. In the majority of cases, this criterion will apply in areas that have been previously investigated and that are already known or suspected to be associated with unique evolutionary processes. While systematic methods to measure and prioritize evolutionary processes in a landscape do exist, they are typically beyond a reasonable expectation of assessments conducted by the private sector.

3 IDENTIFICATION OF NATURAL HABITAT AND MODIFIED HABITAT

Existing project and publicly available information on land cover, and expert analysis was undertaken to designate land cover categories as Natural or Modified Habitat and determine the extent of each within the AoA. Available spatial land cover data, CORINE Land Cover (Copernicus 2018) and EUSeaMap² were used to generate maps.

The results of a European University Information Systems (EUNIS) based habitat classification developed through analysis of GIS data are given in Figure 2.

² The European Marine Observation and Data Network (EMODnet) <https://www.emodnet-seabedhabitats.eu/>

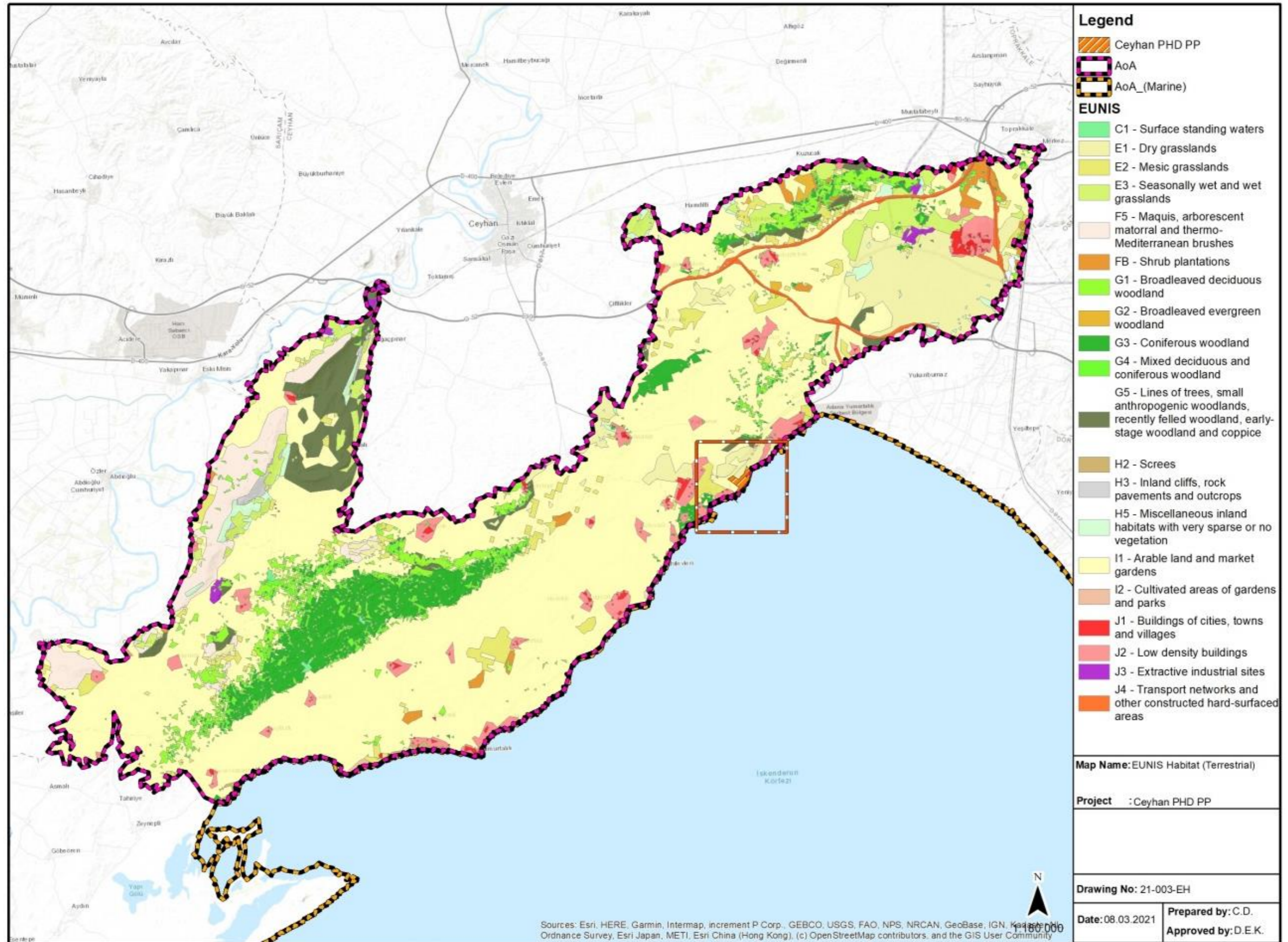


Figure 2. Terrestrial EUNIS Habitats

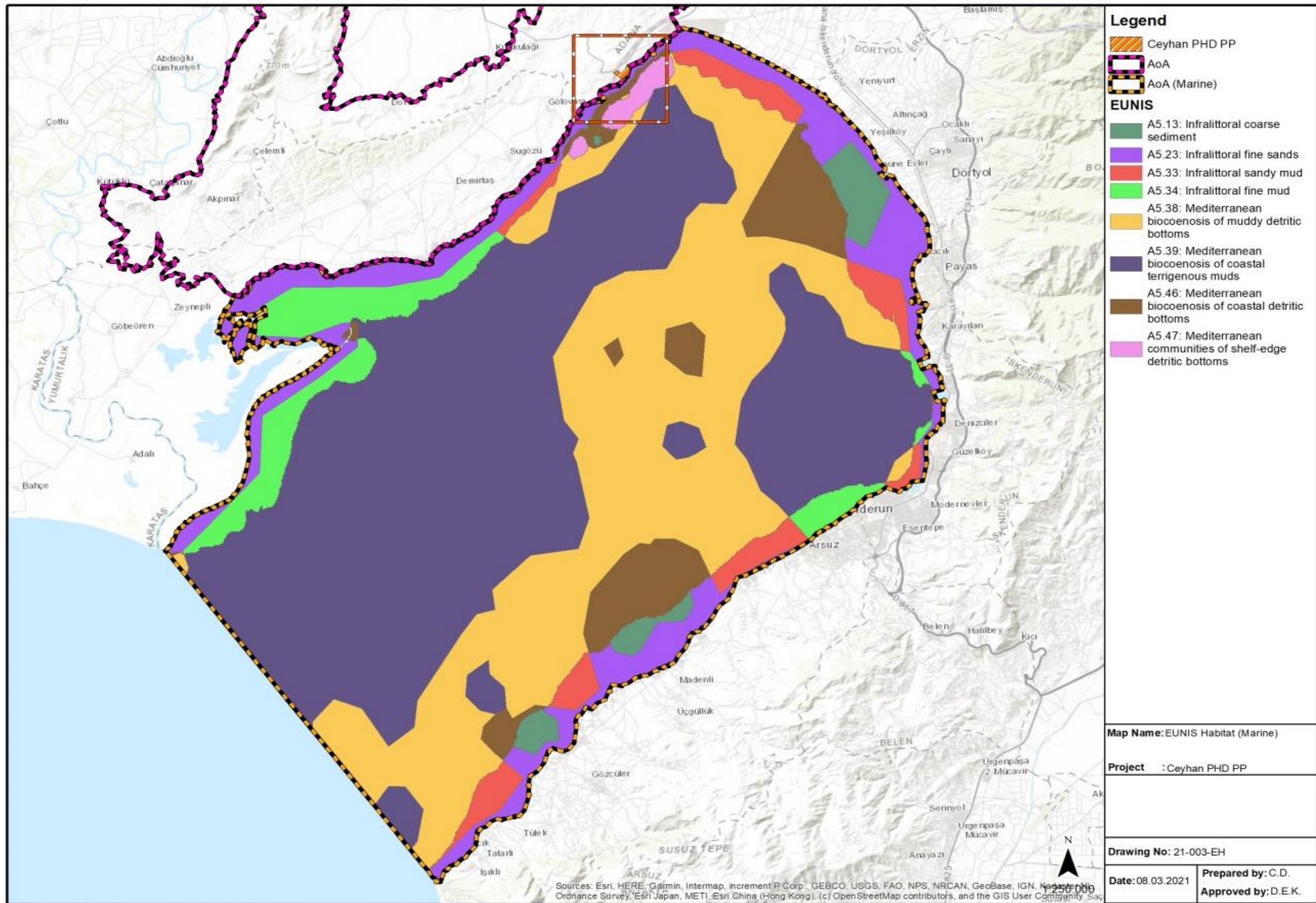


Figure 3. Marine EUNIS Habitats

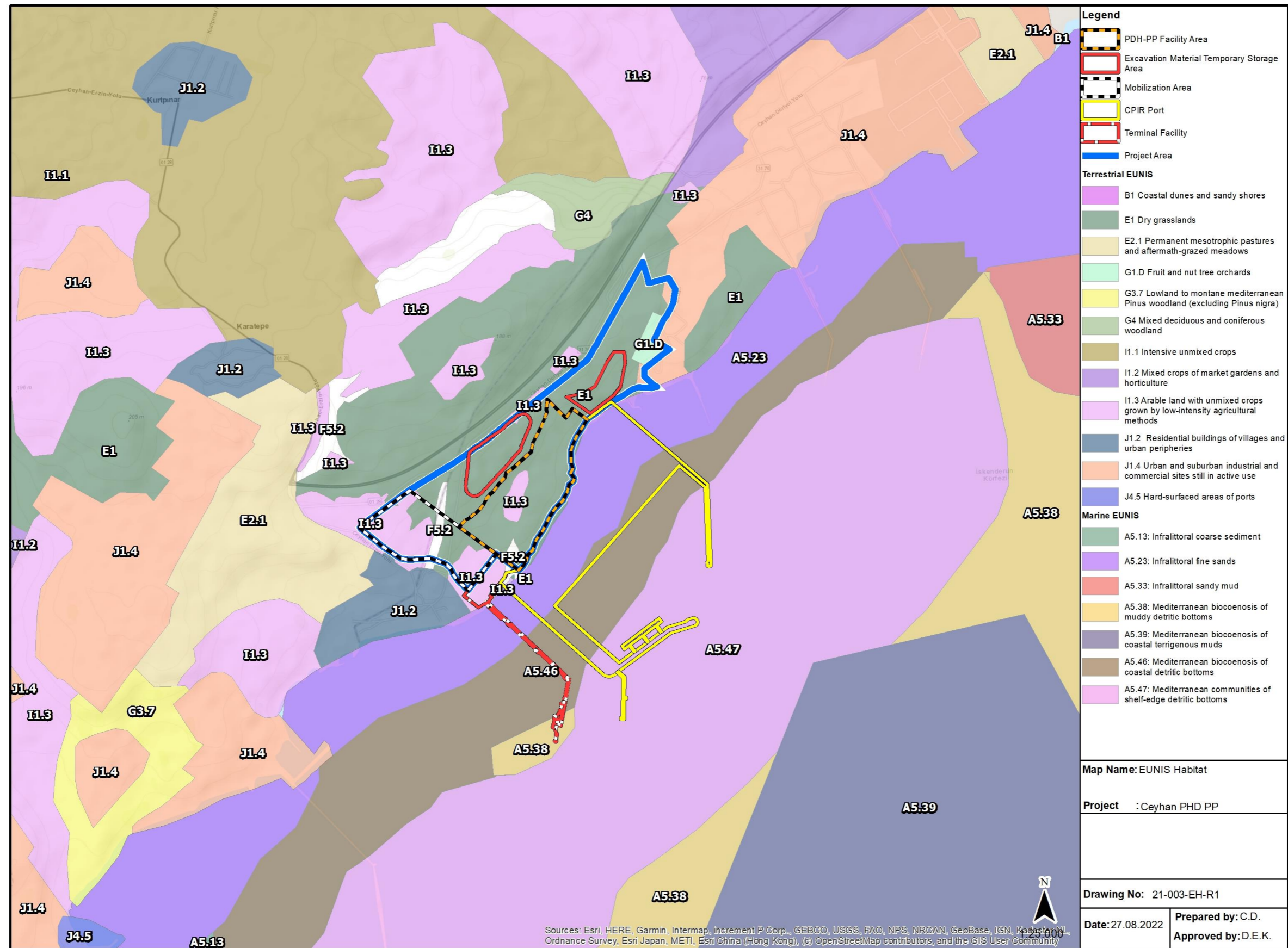


Figure 4. EUNIS Habitats

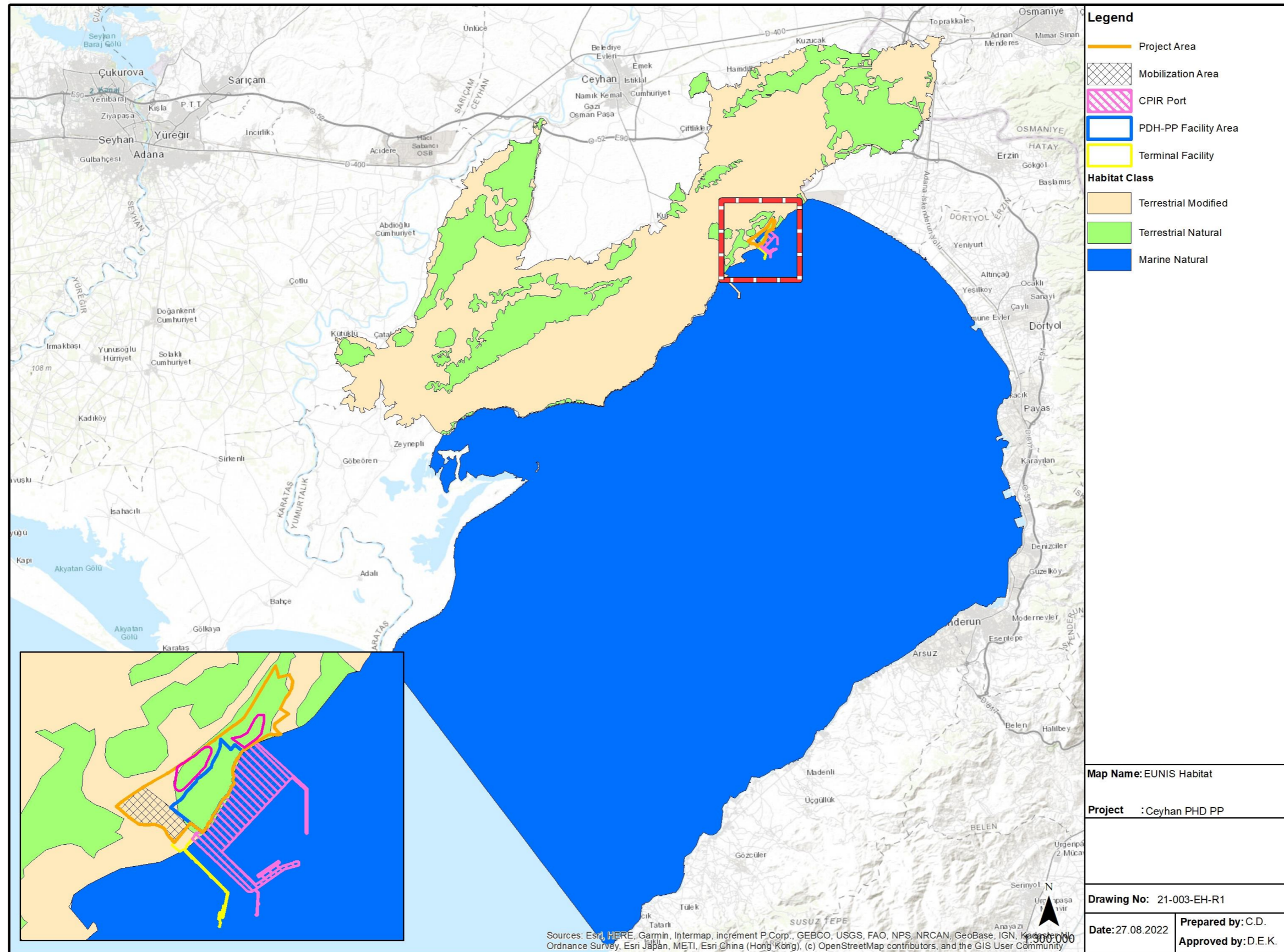


Figure 5. Terrestrial and Marine Habitat Class

4 LEGALLY PROTECTED AREAS AND INTERNATIONALLY RECOGNIZED AREAS

Yumurtalik Lagoons comprises the whole of the alluvial delta formed by several rivers in the eastern Mediterranean Sea, with a broad array of freshwater and coastal habitat types which support sand dune vegetation, salt marsh vegetation, stream bank vegetation, and ruderal vegetation of roadsides and field margins. The threatened sea turtles *Caretta caretta* and *Chelonia mydas* are supported, and the site is one of the key points where migratory birds on the Palaearctic-Africa route meet, using the site as both a stopover and a wintering site. It is also a key area for fish reproduction. “Legally Protected Areas” associated with the AoA are given in Figure 6.

According to “Key Biodiversity Areas of Turkey”³ published by Doğa Derneği (Nature Society) in cooperation with the Turkish Ministry of Environment and Forestry⁴, Burnaz Dunes KBA, which is also classified as an archaeological protected site, is located approximately 2.5 km to the east of the Project site. The KBA contains dune plains, sand dunes, ponds formed by accumulation of stormwater or groundwater, reed fields around the ponds and orchards as well as agricultural fields. The ponds are often used by the migratory birds during stopover periods. Notably, Burnaz Dunes KBA is the only area in Turkey that is known to be hosting endangered terrestrial fauna species *Acanthodactylus schreiberi*.

Sugözü Akkum KBA consists of sand dunes and small agricultural lands and is located approximately 2.5 km to the southwest of the Project site. A creek flows in the middle of the KBA and discharges into the Mediterranean Sea, creating a wetland in its close vicinity. Sugözü Akkum KBA is a breeding ground for the endangered loggerhead sea turtle (*Caretta caretta*) and green turtle (*Chelonia mydas*) species. Turkey’s second largest population of the green sea turtle breeds in this area. Sugözü Akkum KBA does not have any importance for bird populations.

³ Eken, G., Bozdoğan, M., İsfendiyaroğlu, S., Kılıç, D.T., Lise, Y. (2006), Key Biodiversity Areas of Turkey. Doğa Derneği, Ankara.

⁴ Former Ministry, afterward restructured as MoEUCC

5 CRITICAL HABITAT ASSESSMENT

Evaluation against each criterion is carried out in table format which includes potential triggering species, their IUCN status, relation to the Project AoA, observation status in the AoA and summary of finding. Potential species were selected in line with the CHA Criteria in comparison to literature information and survey findings. For Criterion 1 to 3, due to 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. For threatened ecosystems, there is limited data on extents and condition within the AoA or wider area.

It should be noted that population and range data of assessed species were gathered from the IUCN Red List Data Base.

5.1 Criterion 1: Critically Endangered (CR) and/or Endangered (EN) Species

To assess whether or not the Project triggers a CH under Criterion 1, a comprehensive list of CR, EN and VU species (VU species which are likely to trigger Criterion 1b) of the AoA has been developed based on the baseline data and listed in Table 2

Table 2. Assessment of Criterion 1

Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
Terrestrial					
Plants					
<i>Cyclamen persicum</i>	VU (Nat.) ⁵	108000	718	0.665	<ul style="list-style-type: none"> Regionally VU as per Red Data Book of Turkish Plants. This species is known from Adana and Mersin in Turkey The AoA does not contains important concentrations of the species. This proportion of the population can nat trigger Critical Habitat Criterion 1c
<i>Pancratium maritimum</i>	LC/ EN(Nat.)	265000	3	0.001	<ul style="list-style-type: none"> .This species is present throughout the Mediterranean basin, with records in Spain, Portugal, France, Italy, Slovenia, Croatia, Greece, Albania, Montenegro, Morocco, Algeria, Cyprus, Malta, Tunisia, Libya, Turkey, Egypt, Jordan, Israel and Lebanon. (Heywood 1993).

⁵ Ekim, T. et al. (2000). *Turkiye Bitkileri Kirmizi Kitabı* (Red Data Book of Turkish Plants). *Turkiye Tabiatını Koruma Derneği*. Yayın No:18.

Annex-K: Critical Habitat Assessment

Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
					<ul style="list-style-type: none"> This species is very abundant along its distribution area and big populations can be found. Whilst a remarkable overall population decline <i>Pancratium maritimum</i> classified as LC in Mediterranean Basin as per IUCN. According to the Red Data Book of Turkish Plants this species classified as EN The AoA does not contains important concentrations of the species. This proportion of the population can naot trigger Critical Habitat Criterion 1c
<i>Sternbergia pulchella</i>	VU (Nat.)	160000	718	0.44	<ul style="list-style-type: none"> Regionally VU as per Red Data Book of Turkish Plants This species is known from Adana and Hatay in Turkey The AoA does not contains important concentrations of the species. This proportion of the population can naot trigger Critical Habitat Criterion 1c
<i>Crocus vitellinus</i>	VU (Nat.)	145000	718	0.49	<ul style="list-style-type: none"> Regionally VU as per Red Data Book of Turkish Plants This species is known from Adana and Hatay in Turkey The AoA does not contains important concentrations of the species. This proportion of the population can naot trigger Critical Habitat Criterion 1c
Reptiles					
<i>Testudo graeca</i>	VU	Unknown/Very large range	718	-	<ul style="list-style-type: none"> Very large global distribution. Unlikely to trigger CH under Criterion 1.
<i>Trionyx triunguis</i>	VU	2000000	718	0.036	<ul style="list-style-type: none"> Trionyx triunguis ranges widely in Africa and the eastern Mediterranean. It occurs in the coastal regions of southern Turkey from Dalyan to Asi River, and in the Mediterranean coastal area of Israel from Tel Aviv northwards (Werner 2016). In Turkey the species occurs in two main areas: the Cukurova delta (Seyhan River mouth) in the south and Dalyan and the Dalaman area in the southwest. In addition, reproduction occurs at seven more sites (Aksu/Acisu, Anamur, Goksu, Berdan River, Tuzla Drainage Channel, Karatas Drainage Channel, and at least formerly, Ceyhan River); recent records indicate that small populations may exist at a few more sites (Patara, Fethiye, Kopru Cayi/Acisu, Bozyazi, Orontes (Asi) River) (Gramentz 2005). This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
Birds					
<i>Aythya ferina</i>	VU	548000	718	0.131	<ul style="list-style-type: none"> The species breeds from western Europe through central Asia (Carboneras and Kirwan 2014). It is present throughout the year but may make within-winter movements. European migratory populations winter mostly in north-western and western Europe, the eastern Mediterranean, Black Sea and the Caspian Sea, as well as in Turkey, the Middle East and as far south as sub-Saharan Africa (Hagemeijer and Blair 1997, Carboneras and Kirwan 2014).

Annex-K: Critical Habitat Assessment

Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
					<ul style="list-style-type: none"> The global population is estimated to number 760,000-790,000 mature individuals, which equates to 1.14-1.18 million individuals in total (Wetlands International 2021). During the field study the species cannot be observed This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Neophron percnopterus</i>	EN	50100000	718	0.001	<ul style="list-style-type: none"> Migratory birds breed in northernmost Africa (Morocco, Algeria, Tunisia, Libya, Egypt), southern Europe from Spain in the west through the Mediterranean, Turkey, the Caucasus and central Asia to northern Iran, Pakistan, northern India and Nepal. Besides, this species was not observed within the Project Site or its AoI during the field studies. It is considered unlikely to trigger Criterion 1a.
<i>Oxyura leucocephala</i>	EN	14100000	718	0.005	<ul style="list-style-type: none"> A larger population breeds primarily in Russia and Kazakhstan, and also Turkey, Iran, Afghanistan, Tajikistan (likely small and declining [Li and Mundkur 1993]). The total Turkish wintering population in 2005 was only 1,006 birds, down from over 9,000 in 1988 (S. Isfendiyaroglu in litt. 2005), with numbers estimated at 868-2,123 individuals for the period 2002-2012 representing a decrease of 60-80% for the same period (BirdLife International 2015). Besides, this species was not observed within the Project Site or its AoI during the field studies. The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a
<i>Streptopelia turtur</i>	VU	7080000	718	0.010	<ul style="list-style-type: none"> The species is a widespread migrant breeder across much of central and southern Europe, Central Asia, the Middle East and North Africa, wintering mainly in the Sahel zone of Africa (Baptista et al. 2015). The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
Mammals					
<i>Rhinolophus mehelyi</i>	VU	18885688	718	0.004	<ul style="list-style-type: none"> Rhinolophus mehelyi is largely restricted to the Mediterranean. During the field study the species cannot be observed This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Myotis capaccinii</i>	VU	5387022	643	0.012	<ul style="list-style-type: none"> Myotis capaccinii is sparsely distributed from eastern Iberia, Spain through the northern Mediterranean to

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Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
					<p>coastal Asia Minor and Israel, Lebanon and Jordan, and also in Mesopotamia from Turkey to Iran and in north-west Africa (limited to the Mediterranean fringe of western Maghreb: north Morocco and northwest Algeria).</p> <ul style="list-style-type: none"> • During the field study the species cannot be observed. • This proportion is not large enough that their loss would result in the Red List status changing to Endangered • The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Vormela peregusna</i>	VU	7000000	100	0.001	<ul style="list-style-type: none"> • Marbled Polecat occurs from south-east Europe through Asia Minor, the Middle East, the Caucasus, and Central Asia, to northern China and Mongolia. • During the field study the species cannot be observed. • This proportion is not large enough that their loss would result in the Red List status changing to Endangered • The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
Marine					
<i>Anguilla anguilla</i>	CR	11000000	2114	0.019	<ul style="list-style-type: none"> • <i>Anguilla anguilla</i> occurs in most inland waters of Europe and is distributed from North Cape in northern Norway, southwards along the coast of Europe, all coasts of the Mediterranean and on the North African coast (Schmidt 1909, Dekker 2003b). • During the field study the species cannot be observed. • The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a
<i>Mustelus mustelus</i>	VU	2500000	2114	0.085	<ul style="list-style-type: none"> • The Common Smoothhound is found in the east Atlantic Ocean, including the Mediterranean Sea (but is absent from the Black Sea) (Serena 2005, Ebert and Stehmann 2013). • During the field study the species cannot be observed. • This proportion is not large enough that their loss would result in the Red List status changing to Endangered • The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Dasyatis pastinaca</i>	VU	2200000	2114	0.096	<ul style="list-style-type: none"> • The Common Stingray is found in the east Atlantic and the Mediterranean and Black Sea (Last et al. 2016, Ebert and Dando 2021). • This proportion is not large enough that their loss would result in the Red List status changing to Endangered • The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Bathytoshia centroura</i>	VU	4000000	2114	0.053	<ul style="list-style-type: none"> • The Roughtail Stingray occurs in the Northwest and Western Central Atlantic from Cape Cod and the Georges Bank, Massachusetts, USA to the Bahamas and the Texas Gulf Coast, and in the Southwest Atlantic from Rio Grande do Norte, Brazil to Golfo San Matías, Chubut, Argentina (Last et al. 2016). A recent record

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Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
					<p>from Tabasco, Mexico extends the range to the southeast Gulf of Mexico (Wakida-Kusunoki et al. 2018).</p> <ul style="list-style-type: none"> • During the field study the species cannot be observed. • This proportion is not large enough that their loss would result in the Red List status changing to Endangered • The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Aetomylaeus bovinus</i>	CR	5000000	2114	0.042	<ul style="list-style-type: none"> • The Duckbill Eagle Ray is found in the Northeast Atlantic, Eastern Central Atlantic, Mediterranean Sea (but is absent from the Black Sea), Southeast Atlantic, and Western Indian Ocean (Last et al. 2016). • During the field study the species cannot be observed. • The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a
<i>Dentex dentex</i>	VU	2500000	2114	0.085	<ul style="list-style-type: none"> • Dentex dentex is widely distributed along the West African coast north of Cape Blanc, Mauritania; around the Canary Islands (Dooley et al. 1985), Madeira (Wirtz et al. 2008) and south to Senegal (Bauchot and Hureau 1986). This species is also present throughout most of the Mediterranean Sea, most frequently south of 40°, occasionally in part of the Black Sea (Marengo et al. 2014) • During the field study the species cannot be observed. • This proportion is not large enough that their loss would result in the Red List status changing to Endangered • The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Epinephelus marginatus</i>	EN	5000000	2114	0.042	<ul style="list-style-type: none"> • This species is distributed in the northeastern Atlantic Ocean from the southern English Channel, south along the coasts of western Spain and Portugal, throughout the Mediterranean Sea and Macaronesian islands and south along West Africa to southern Angola and possibly northern Namibia at the Cunene River (H. Holtzhausen pers. comm. 2016). • During the field study the species cannot be observed. • The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a
<i>Pomatomus saltatrix</i>	VU	4000000	2114	0.053	<ul style="list-style-type: none"> • This migratory, pelagic marine fish is found in about 8–10 isolated subpopulations in coastal temperate and subtropical waters of all ocean basins except the eastern Pacific (Briggs 1960, Goodbred and Graves 1996). • During the field study the species cannot be observed. • This proportion is not large enough that their loss would result in the Red List status changing to Endangered • The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Sciaena umbra</i>	VU	2500000	2114	0.085	<ul style="list-style-type: none"> • Sciaena umbra is found in the eastern Atlantic from the English Channel to Mauritania, including the Canary Islands and throughout the Mediterranean Sea in all coastal areas and is also present in the Black Sea and the Sea of Azov.

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Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
					<ul style="list-style-type: none"> During the field study the species cannot be observed. This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Trachurus trachurus</i>	VU	5000000	2114	0.042	<ul style="list-style-type: none"> <i>Trachurus trachurus</i> is found in the north and eastern Atlantic (Smith-Vaniz 1986), including the Mediterranean and Marmara Seas (Smith-Vaniz 1986) and the Black Sea. This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Umbrina cirrosa</i>	VU	2500000	2114	0.085	<ul style="list-style-type: none"> This species occurs in the Eastern Atlantic from the Bay of Biscay (with occasional records from Britain in the southern North Sea) to southern Morocco, possibly in all north African coasts including Egypt and throughout the Mediterranean and Black Seas, to the Sea of Azov (Bini 1968, Collignon and Aloncle 1973, Koutrakis and Tsikliras 2003, Molinari and Tunesi 2003, Cruz and Lombarte 2006, Dulčić and Glamuzina 2006). This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Gymnura altavela</i>	CR	6000000	2114	0.035	<ul style="list-style-type: none"> The Spiny Butterfly Ray is patchily distributed throughout the Atlantic Ocean and Mediterranean Sea and Black Sea, with a discontinuous range in the Americas. During the field study the species cannot be observed. The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a
<i>Raja radula</i>	EN	2500000	2114	0.085	<ul style="list-style-type: none"> The Rough Skate occurs throughout the Mediterranean Sea, but mainly in the western region and around the Balearic Islands. It is absent from the Black Sea (Serena 2005). During the field study the species cannot be observed. The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a
<i>Isurus oxyrinchus</i>	EN	Unknown/Very large range	2114	-	<ul style="list-style-type: none"> The Shortfin Mako (<i>Isurus oxyrinchus</i>) is widespread in temperate and tropical waters of all oceans (Ebert et al. 2013). Very large global distribution. Unlikely to trigger CH under Criterion 1a.
<i>Rhinobatos rhinobatos</i>	EN	4000000	2114	0.053	<ul style="list-style-type: none"> The Common Guitarfish is found in the eastern Atlantic Ocean and Mediterranean Sea and occurs from the southern Bay of Biscay to Angola (Last et al. 2016). During the field study the species cannot be observed. The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a

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Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
<i>Balistes caprisicus</i>	VU	5000000	2114	0.042	<ul style="list-style-type: none"> In the eastern Atlantic, it is known from Ireland south into the Mediterranean Sea, the Azores, the Canary Islands, the Islands of Madeira, and along West Africa to Angola During the field study the species cannot be observed. This proportion is not large enough that their loss would result in the Red List status changing to Endangered The AoA is therefore not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1b
<i>Caretta caretta</i>	VU	Unknown/Very large range	2114	-	<ul style="list-style-type: none"> The Loggerhead Turtle is globally distributed throughout the subtropical and temperate regions of the Mediterranean Sea and Pacific, Indian, and Atlantic Oceans (Wallace et al. 2010) <ul style="list-style-type: none"> According to Sugözü-Akkum IBA records and BTC Project Environmental and Social Annual Report, <i>Caretta caretta</i> nesting is very low on Sugözü Akkum beach. It has been determined that 1 or 2 female individuals are nesting in the area. Since it is a rather insignificant number compared to the global population, no further evaluation was required. Very large global distribution. Unlikely to trigger CH under Criterion 1b.
<i>Chelonia mydas</i>	EN	Unknown/Very large range	2114	-	<ul style="list-style-type: none"> The Green Turtle has a circumglobal distribution, occurring throughout tropical and, to a lesser extent, subtropical waters (Atlantic Ocean – eastern central, northeast, northwest, southeast, southwest, western central; Indian Ocean – eastern, western; Mediterranean Sea; Pacific Ocean – eastern central, northwest, southwest, western central). Green turtles are highly migratory and they undertake complex movements and migrations through geographically disparate habitats. <ul style="list-style-type: none"> According to Sugözü-Akkum IBA records and BTC Project Environmental and Social Annual Report⁶, the highest number of nesting recorded at Sugözü Akkum is 213. This corresponds to approximately 71 female individuals. According to the IUCN redlist, the number of female individuals detected in all index sites is approximately 88449. According to the comparison of the Sugözü-Akkum population and the global population, the rate is obtained as 0.08%. Very large global distribution. Unlikely to trigger CH under Criterion 1a.
<i>Stenella coeruleoalba</i>	VU	Unknown/Very large range	2114	-	<ul style="list-style-type: none"> The Striped Dolphin is a widely-distributed species, found in tropical to warm-temperate waters of the Atlantic, Pacific, and Indian oceans, as well as many adjacent seas, including the Mediterranean (Jefferson et al. 2015, Archer 2018). During the field study the species cannot be observed. Very large global distribution. Unlikely to trigger CH under Criterion 1b.

⁶ https://www.bp.com/content/dam/bp/country-sites/en_azerbaijan/home/pdfs/esias/scpxaddendum/2014-btc-annual-lenders-report.pdf

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Species	IUCN	Extent of Occurrence (EOO) (km ²)	EOO within AoA (km ²)	% of Global Range in AoA	Evaluation / Notes
<i>Balaenoptera physalus</i>	VU	Unknown/Very large range	2114	-	<ul style="list-style-type: none"> Fin Whales are present in the central and western Mediterranean, mainly north and east of the Balearic Islands, and appear to be a mixture of a resident population and one migrating between the Mediterranean and the Atlantic (Notabartolo di Sciara et al. 2016). The area of abundance seems to be concentrated in the Ligurian Sea and the Gulf of Lyon in summer, but expands to cover much of the western and central Mediterranean in winter. Fin Whales are rare in the southern and eastern Mediterranean. During the field study the species cannot be observed. Very large global distribution. Unlikely to trigger CH under Criterion 1b.
<i>Monachus monachus</i>	CR	4993004	2114	0.042	<ul style="list-style-type: none"> The distribution of the Mediterranean Monk Seal is highly fragmented and consists of 3–4 isolated subpopulations. In the Mediterranean Sea, the stronghold of the species is at islands in the Ionian and Aegean Seas (Adamantopoulou et al. 1999), and along the coasts of mainland Greece, Cyprus, and western and southern Turkey (Güçlüsoy et al. 2004; Gücü et al. 2004, 2009; MOm 2007; Nikolaou pers. comm). Project site at a coastal path of 5.3 km, no cave or similar structure which constitutes suitable conditions for breeding and nesting of Mediterranean Monk Seal (<i>Monachus monachus</i>) could be observed; however, the site is found to be suitable as a feeding area mainly due to the diversity of food supply Mediterranean monk seals' distribution shows an interrupted pattern along Turkish coasts, instead of a continuous distribution range. Monk seal exists in the following coastal segments in Turkey; <ul style="list-style-type: none"> In the Sea of Marmara; Armutlu Peninsula, Marmara Islands, Mola Islands and northern coasts of Kapıdağ Peninsula and Karabiga coasts, In the E Aegean coasts; coast between Gelibolu Peninsula (on the Aegean side) and Behramkale as well as the coasts from Yeni Foça upto Datça, In S Türkiye; the coasts between Datça and Kemer, the coasts between Gazipaşa and Taşucu (Cilician coasts) and the coast between Samandağ and Turkish-Syrian border. (SAD-AFAG (2021)) During the field study the species cannot be observed. The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 1a

5.2 Criterion 2: Endemic and/or Restricted-Range Species

There are no endemic or restricted-range species within the scope of the project. Criterion 2 is scoped out.

5.3 Criterion 3: Migratory or Congregatory Species

No migratory birds crossing was observed on the Project site in studies conducted during the migration period. The Project site is not directly located on the main migration route of the avifauna species. The Project site is not considered as gathering area for migratory birds and shelter or a breeding ground for endangered bird species. Some individual species may be seen flying above the area during spring and autumn migrations.

In the region where the Project is located, there are more suitable areas such as Ceyhan and Seyhan Deltas located in the west for feeding, breeding and sheltering of bird species. The assessment made according to the migratory species registered in the Ceyhan Delta IBA located within the AoA is given in Table 3. However, it should be noted that a very small part of the Ceyhan Delta IBA intersects with the AoA.

Table 3. Assessment of Criterion 3 (Ceyhan Delta IBA records)

Species	Global Population	Population within the AOA	% of Global Population in AoA	Evaluation / Notes
<i>Anas penelope</i>	3300000	27190	0.8	<ul style="list-style-type: none"> During the field study the species cannot be observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Ardea alba</i>	41500	147	0.35	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Calidris alpina</i>	4295000	7239	0.17	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Calidris minuta</i>	1500000	2200	0.15	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Charadrius alexandrinus</i>	290000	805	0.28	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Ciconia ciconia</i>	700000	1990	0.28	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Fulica atra</i>	7950000	26000	0.32	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Glareola pratincola</i>	160000	115	0.07	<ul style="list-style-type: none"> During the field study the species cannot be observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Grus grus</i>	491000	86	0.017	<ul style="list-style-type: none"> During the field study the species cannot be observed

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Species	Global Population	Population within the AOA	% of Global Population in AoA	Evaluation / Notes
				<ul style="list-style-type: none"> The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Limosa limosa</i>	614000	1350	0.21	<ul style="list-style-type: none"> This species has a large discontinuous breeding range extending from Iceland to the Russian far east, with wintering populations in Europe, Africa, the Middle East and Australasia (Van Gils et al. 2017). During the field study the species cannot be observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Phoenicopterus roseus</i>	550000	5000	0.9	<ul style="list-style-type: none"> This species is regularly seen from West Africa eastward throughout the Mediterranean to South West and South Asia, and throughout sub-Saharan Africa. During the field study the species cannot be observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Platalea leucorodia</i>	63000	300	0.79	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Recurvirostra avosetta</i>	280000	1217	0.43	<ul style="list-style-type: none"> During the field study the species cannot be observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Sterna albifrons</i>	190000	300	0.15	<ul style="list-style-type: none"> This species is breeding through much of Europe, scattered along the coast and inland in parts of Africa, in much of western, central and the extreme east and south of Asia, and in northern parts of Australasia. During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3
<i>Tadorna tadorna</i>	625000	1452	0.23	<ul style="list-style-type: none"> During the field study the species was observed The AoA is not considered of sufficient value for it to qualify as Critical Habitat under Criterion 3

The Project site is not within an IBA or Ramsar site and assessment with known populations of Ceyhan Delta IBA indicates that it does not meet the criteria for critical habitat for migratory or congregatory species.

As can be seen in the evaluations given in "Criterion 1" for marine species, it is unlikely for these species to provide thresholds for Criterion 3 due to their range

5.4 Criterion 4: Highly Threatened or Unique Ecosystems

None of the ecosystems of Turkey has been assessed according to the IUCN's Red List of Ecosystems. Therefore, there are no available quantitative thresholds for assessing the Project under CH criterion 4.

None of the habitats identified during the studies are listed as Priority Habitat under Annex 1 of the Habitats Directive.

5.5 Criterion 5: Key Evolutionary Processes

The Project is not substantially different from the surrounding landscape in terms of elevation or moisture gradients, or any other geological, ecological or evolutionary factors that would suggest that the area is vital for sustaining unique or distinctive evolutionary processes. There is no any isolation, spatial heterogeneity and wealth of environmental gradients. Therefore, the Project does not trigger Criterion 5.

6 CONCLUSION

Ceyhan PDH-PP Project does not trigger a designation of Critical Habitat. Identified species are not meeting the thresholds of CHA Criteria.

Although the Project is unlikely to be located in a Critical Habitat, the Project will need to meet the IFC PS6 expectations for the management of impacts on Modified and Natural Habitat. The requirements of PS6 paragraph 12, 14 and 15 with respect to projects located within Modified and Natural Habitat are given below.

PS6 paragraph 12: 'This Performance Standard applies to those areas of Modified Habitat that include significant biodiversity value, as determined by the risks and impacts identification process required in Performance Standard 1. The client should minimize impacts on such biodiversity and implement mitigation measures as appropriate.'

PS6 paragraph 14: '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.'

PS6 paragraph 15: 'In areas of Natural Habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible.'

PS6 footnote 9: 'No net loss is defined as the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, to undertake on-site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (e.g. local, landscape-level, national, regional).'

7 REFERENCES

- 1) Ceyhan Propane Dehydrogenation-Polypropylene Production and Jetty Project ESIA
- 2) Akman, Y. Türkiye Orman Vejetasyonu. Ankara Üniv. Fen Fak. Yayınları (1995).
- 3) Avrupa Komisyonu. (2014a). EU Nature Legislation. Retrieved from: http://ec.europa.eu/environment/nature/legislation/index_en.htm
- 4) Avrupa Komisyonu. (2014b). General Union Environment Action Programme to 2020: Living well, within the limits of our planet. Luxembourg: Publications Office of the European Union.
- 5) Baran, İ. (2005). Türkiye Amfibileri ve Sürüngenleri. Tübitak Popüler Bilim Kitapları, Ankara.
- 6) Basoglu, M. ve N. Ozeti, 1973. Türkiye Amfibileri. Ege Üniversitesi, Fen Fakültesi Kitapları Serisi, No:50, İzmir.
- 7) Başoğlu, M. ve I. Baran, 1977b. Türkiye Sürüngenleri Kısım II, Yılanlar. Ege Üniversitesi, Fen Fakültesi Kitapları Serisi, No:80, İzmir.
- 8) Başoğlu, M. ve I. Baran, 1977a. Türkiye Sürüngenleri Kısım I, Kaplumbağalar ve Kertenkeleler. Ege Üniversitesi, Fen Fakültesi Kitapları Serisi, No:76, İzmir.
- 9) BERN: <http://www.unep.ch/regionalseas/legal/bern.htm>
- 10) BirdLife International 2003 BirdLife's online World Bird Database: Search for Species. Version 2.0. Cambridge, UK: BirdLife International. Available: <http://www.birdlife.org>
- 11) CITES: <http://www.cites.org/>
- 12) Davis, P.H. (ed.). (1965-1988). Flora of Turkey and the East Aegean Islands, vol. 1-10, Edinburgh Univ. Press: Edinburgh.
- 13) Demirsoy, A. (2002). Genel ve Türkiye Zoocoğrafyası (General and Turkish Zoogeography). ISBN. 975-7746-18-5 Meteksan A.S. Ankara.
- 14) Demirsoy, A, 1988. Yaşamın Temel Kuralları, Omurgalılar/Amniota. Cilt 1/3. Meteksan, Ankara.
- 15) Demirsoy, A, 1992. Yaşamın Temel Kuralları, Omurgalılar /Amniota (Sürüngenler, Kuşlar ve Memeliler). Cilt 2/3. Meteksan, Ankara.
- 16) Demirsoy, A, 2002. Genel ve Türkiye Zoocoğrafyası. Meteksan, Ankara.
- 17) Eken, G. Bozdoğan, M. İsfendiyaroğlu, S. Kılıç DT Lise, Y. (eds) 2006. Türkiye'nin Önemli Doğa Alanları. Doğa Derneği, Ankara.
- 18) Ekim, T. et al. (2000). Türkiye Bitkileri Kırmızı Kitabı (Red Data Book of Turkish Plants). Türkiye Tabiatını Koruma Derneği. Yayın No:18.

- 19) Ekim, T. ve ark. Türkiye Bitkileri Kırmızı Kitabı. Türkiye Tabiatını Koruma Derneği. Yayın No:18 (2000).
- 20) Ertan, A., Kılıç, A. and Kasperek, M. 1989. Türkiye'nin Önemli Kuş Alanları. Doğal Hayatı Koruma Derneği, İstanbul.
- 21) EUNIS: <http://eunis.eea.europa.eu/habitats-annex1>
- 22) European Environmental Agency (EEA). (2012). European Nature Information System (EUNIS). Retrieved from: <http://eunis.eea.europa.eu>
- 23) Heinzel H., Fitter R., Parslow J., 1995: Türkiye ve Avrupa'nın Kuşları
- 24) International Finance Corporation (IFC). (2012a). Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. World Bank Group: Washington DC.
- 25) International Finance Corporation (IFC). (2012b). Performance Standards on Environmental and Social Sustainability. World Bank Group: Washington DC.
- 26) International Union for Conservation of Nature (IUCN) 2012. Red List of Threatened Species. Version 2012.2. Retrieved from: <http://www.iucnredlist.org>
- 27) IUCN: <http://www.iucnredlist.org/>
- 28) Kılıç, D.T. and Eken G. 2004. Türkiye'nin Önemli Kuş Alanları 2004 Güncellemesi. Doğa Derneği, Ankara.
- 29) Kızıroğlu, I., 1989. Türkiye Kuşları. Orman Genel Müdürlüğü, Ankara.
- 30) Kirwan, G.M, K.A. Boyla, P. Castell, B. Demirci, M. Özen, H. Welch and T. Marlow.(2008). The birds of Turkey: a study of the distribution, taxonomy and breeding of Turkish birds. Christopher Helm. London.
- 31) Kızıroğlu, I. (2009). The Pocket Book for Birds of Türkiye, ISBN: 975-7460-01-X, Ankamat Matbbası, Ankara, 564 s.
- 32) Kumerlove, H., 1978. Türkiye'nin Memeli Hayvanları. İstanbul Üniversitesi Orman Fakültesi Dergisi, 28 / B (1) :178-204.
- 33) Kumerlove, H., 1980. Anadolu memeli hayvanları üzerinde yapılmış olan araştırma ve buluşların tarihsel gelişimi II. Anadolu Rodentia=Kemirgenleri. İstanbul Üniversitesi Orman Fakültesi Dergisi, 30: 196-223.
- 34) Kuru, H., 1987. Omurgalı Hayvanlar. Atatürk Üniversitesi Basımevi Ankara.
- 35) Magnin, G. and Yarar, M. 1997. Important Bird Areas in Turkey. Doğal Hayatı Koruma Derneği, İstanbul
- 36) Özeti, N. ve İ., Yılmaz 1994 Türkiye amfibileri. Ege Üniversitesi Fen Fakültesi, Kitaplar Serisi: 151, Ege Üniversitesi Basımevi, Bornova-İzmir.

Annex-K: Critical Habitat Assessment

- 37) The Convention on Biological Diversity (CBD). (2014). Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets. Retrieved from: <http://www.cbd.int/sp/default.shtml>
- 38) TRAKUŞ, 2020, Türkiye'nin Anonim Kuşları. http://www.trakus.org/kods_bird/uye/?fsx=@
- 39) TRAMEM, 2020, Türkiye'nin Anonim Memelileri. <http://www.tramem.org/memeliler/?fsx=@>
- 40) Turan, N., 1990. Türkiye'nin Av ve Yaban Hayvanları. Orman Genel Müdürlüğü. Ankara.
- 41) Yiğit, N., Çolak, E., Sözen, M. and Karataş, A. (2006). Rodent of Türkiye, 2006. Meteksan Co. Ankara. ISBN 9944-5560-0-9.