KIZILDERE –II-III JES FACILITIES BIODIVERSITY ACTION PLAN

1.1 Introduction

The Kızıldere 2 and 3 Geothermal Power Plants (GPP) are located in the Sarayköy district of Denizli. Operated by Zorlu Doğal Elektrik Üretimi A.Ş., a subsidiary of Zorlu Enerji, the plant has an installed capacity of over 160 MWe, making it the largest energy plant in Turkey. The average electricity production of the Kızıldere (Zorlu) GPP is sufficient to meet the daily electricity needs of a significant portion of the population, including residential, industrial, metro transportation, government buildings, and public lighting. When considering only residential electricity consumption, Kızıldere (Zorlu) GPP can produce enough electricity to meet the needs of over 25,000 households.

Within the boundaries of the Kızıldere II and III GPP sites lies Sarayköy village. The project site is approximately 1.5 km from Buharkent village, 7.2 km from Buldan village, and 9.3 km from Yayla village in a straight line. Additionally, important centers such as Denizli (14.5 km), Pamukkale (17 km), and Nazilli (37 km) are located within a straight line distance from the project site (Figures 3-5, 9-10).

Significant water bodies are located around the Kızıldere II and III GPP facilities. Afşar Dam is approximately 30 km, Derbent Dam is 17 km, Adıgüzel Dam is 32.5 km, Kemer Dam is 47.5 km, Salda Lake is 74 km, and Acıgöl Lake is 70 km away from the project site in a straight line (Figures 5, 11).

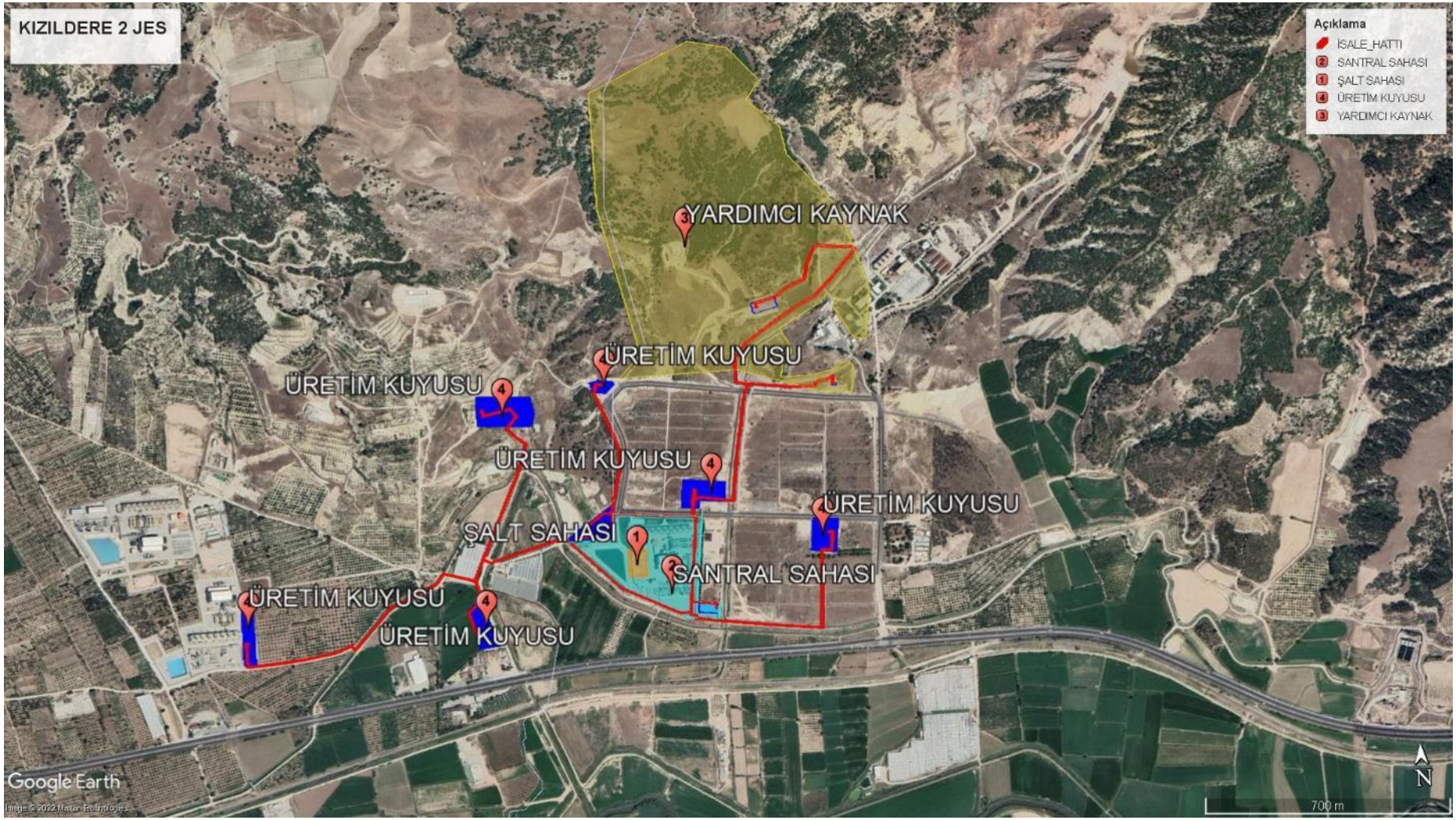


Figure 1: Satellite Image of the Kızıldere-II GPP Project Site

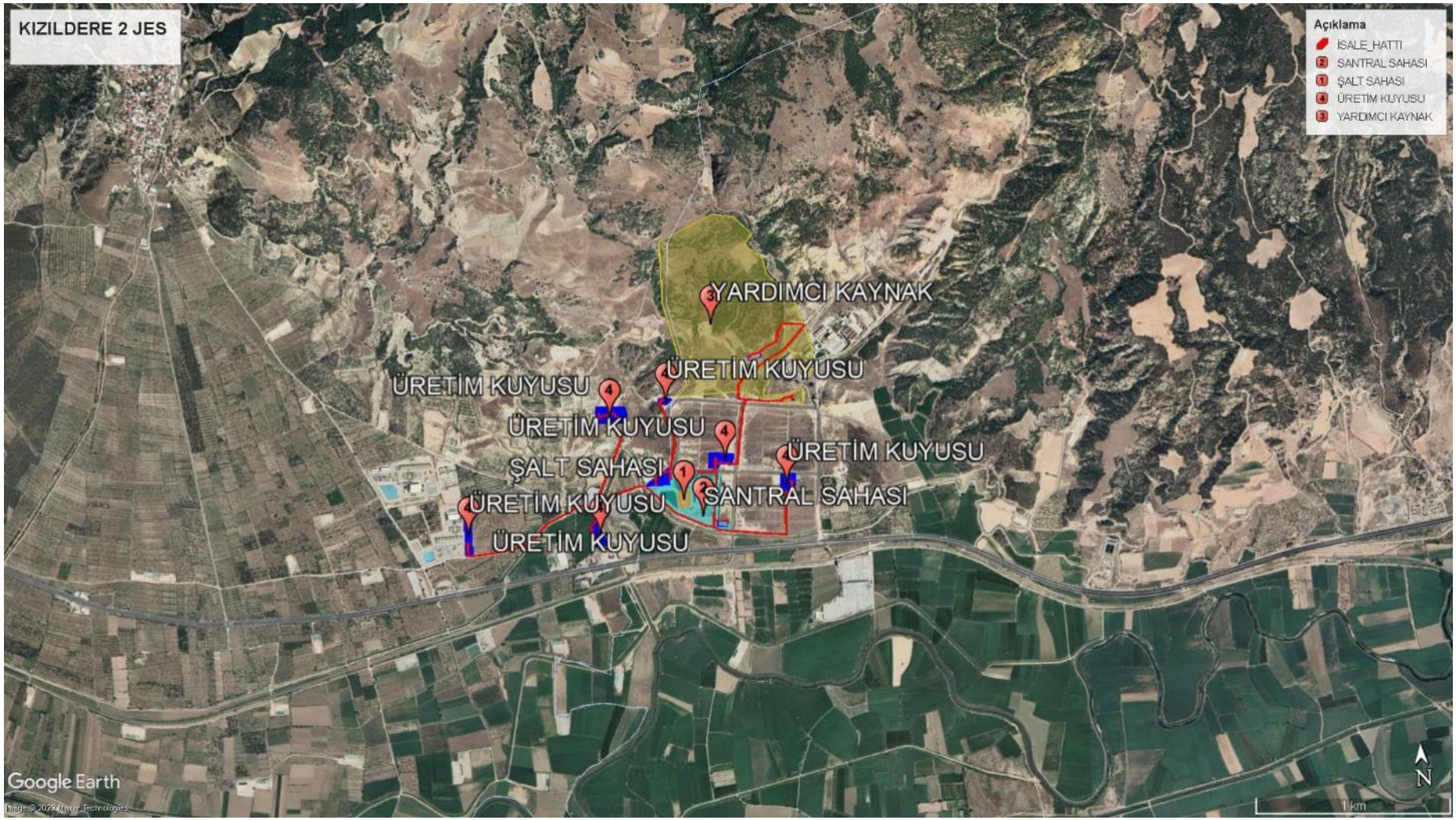


Figure 2: Satellite Image of the Kızıldere-II GPP Project Site

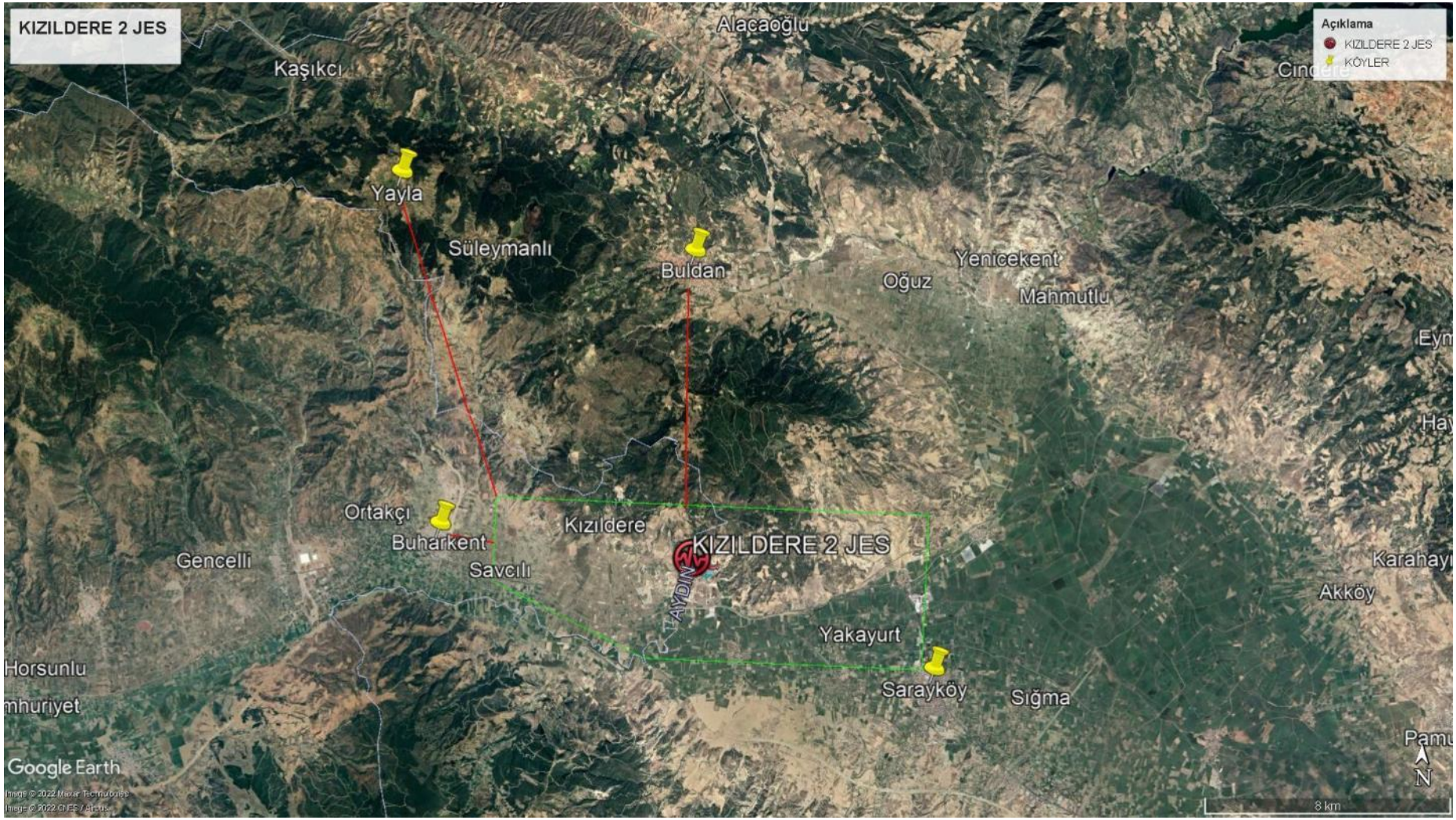


Figure 3: Villages (Neighborhoods) in the Vicinity of the Kızıldere-II GPP

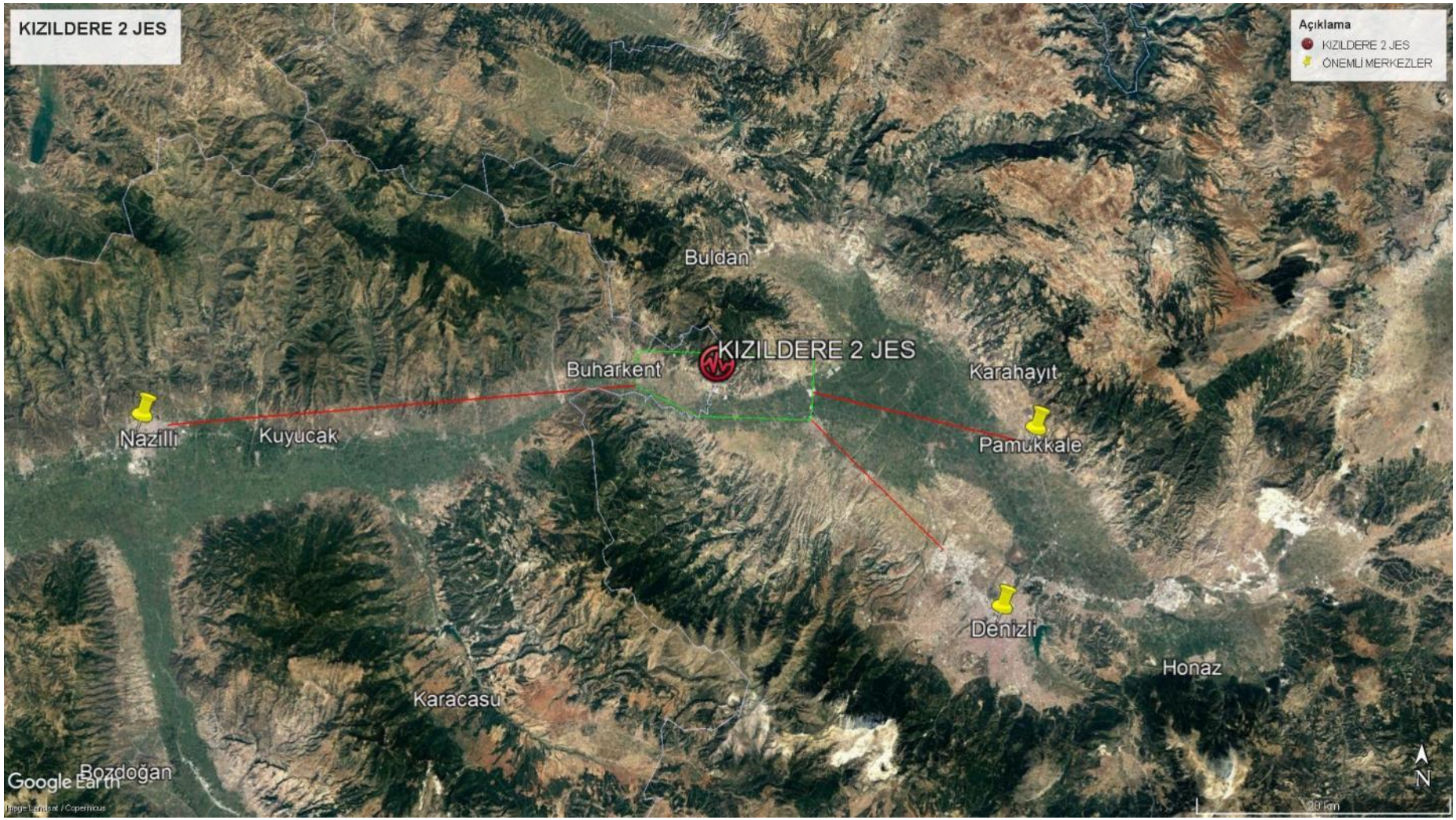


Figure 4: Settlements Near the Kızıldere-II GPP Project Site

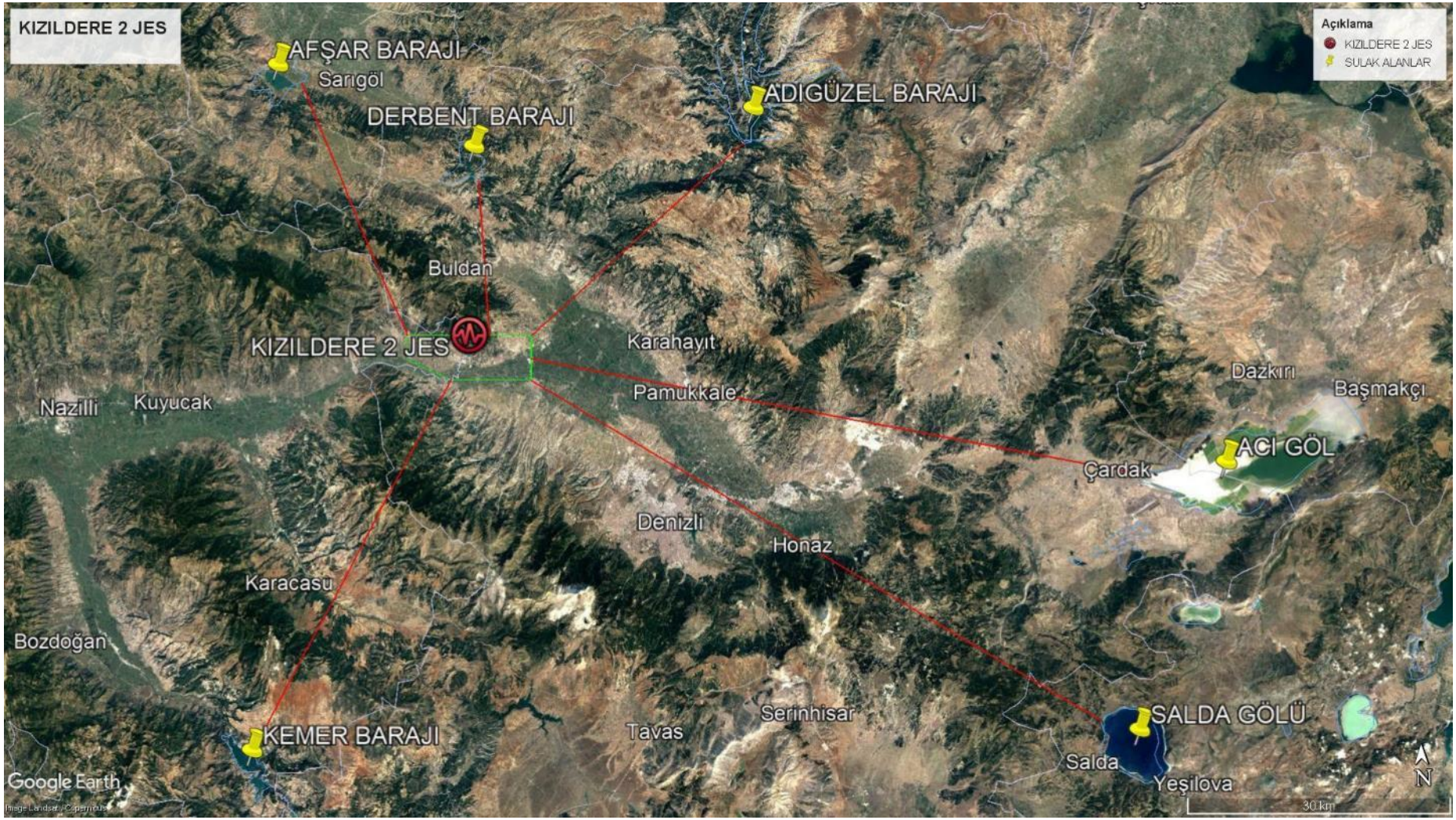


Figure 5: Significant Water Bodies Surrounding the Kızıldere-II GPP Project Site

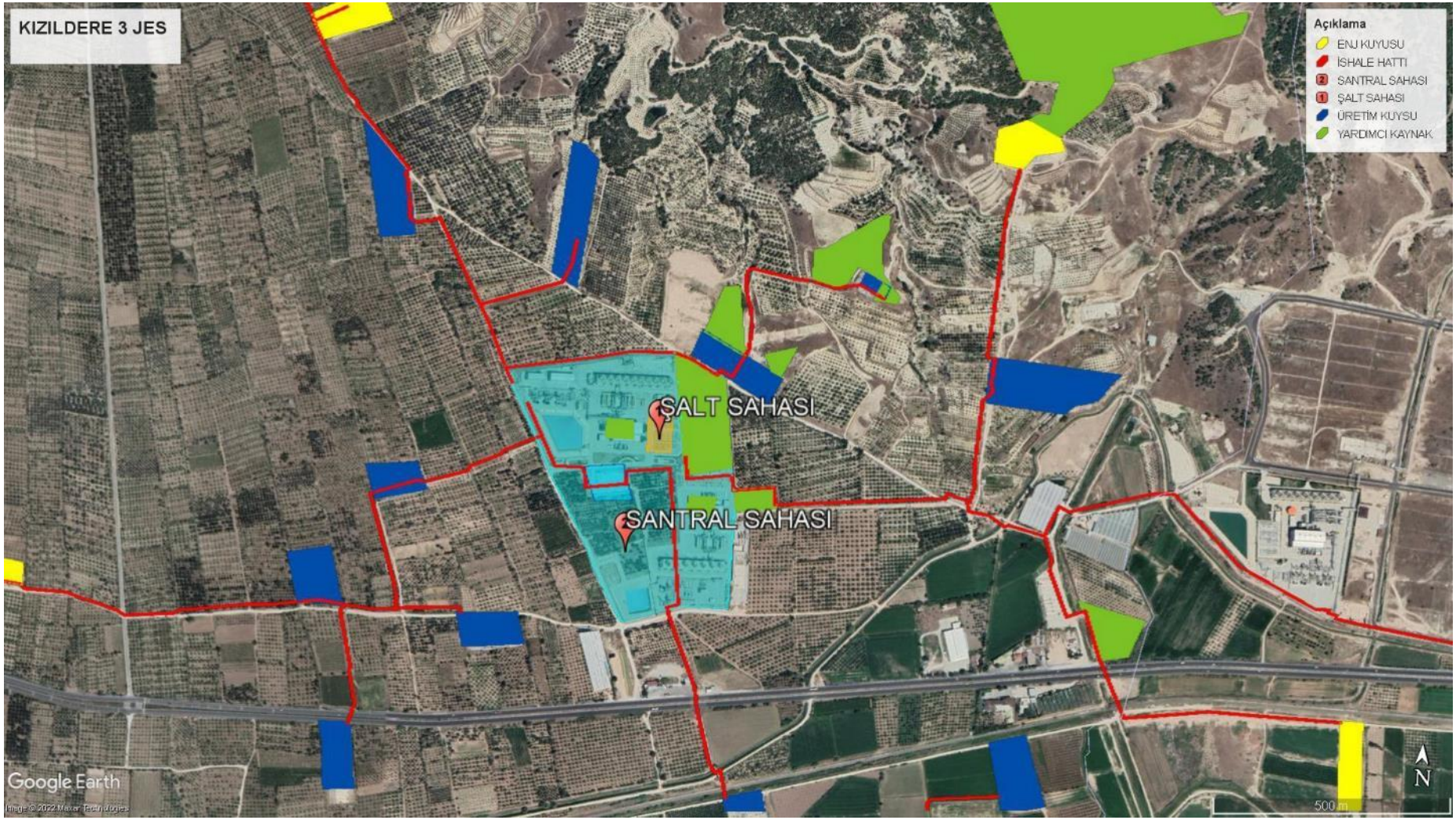


Figure 6: Satellite Image of the Kızıldere-III GPP Project Site

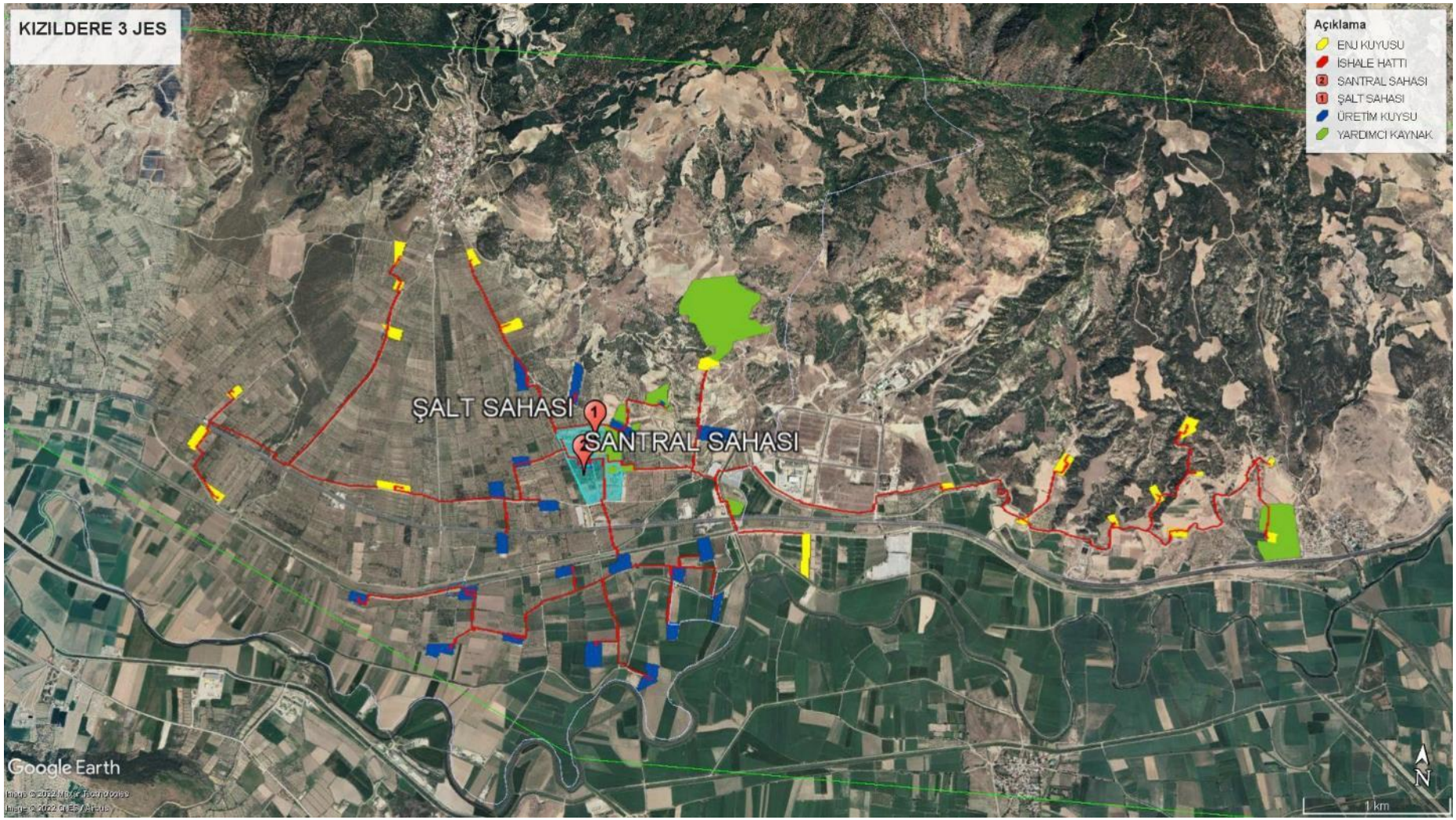


Figure 7: Satellite Image of the Kızıldere-III GPP Project Site

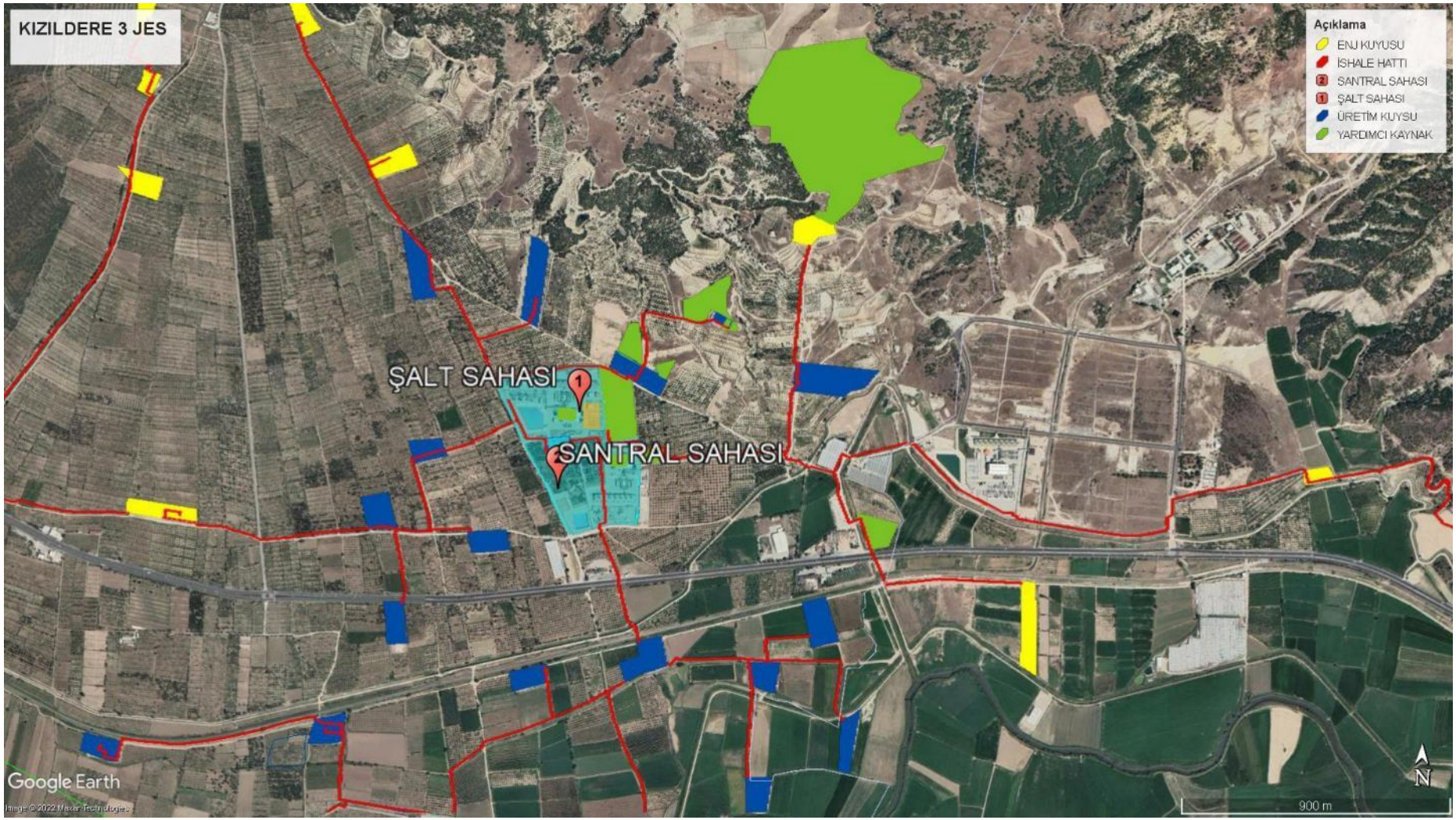


Figure 8: Satellite Image of the Kızıldere-III GPP Project Site

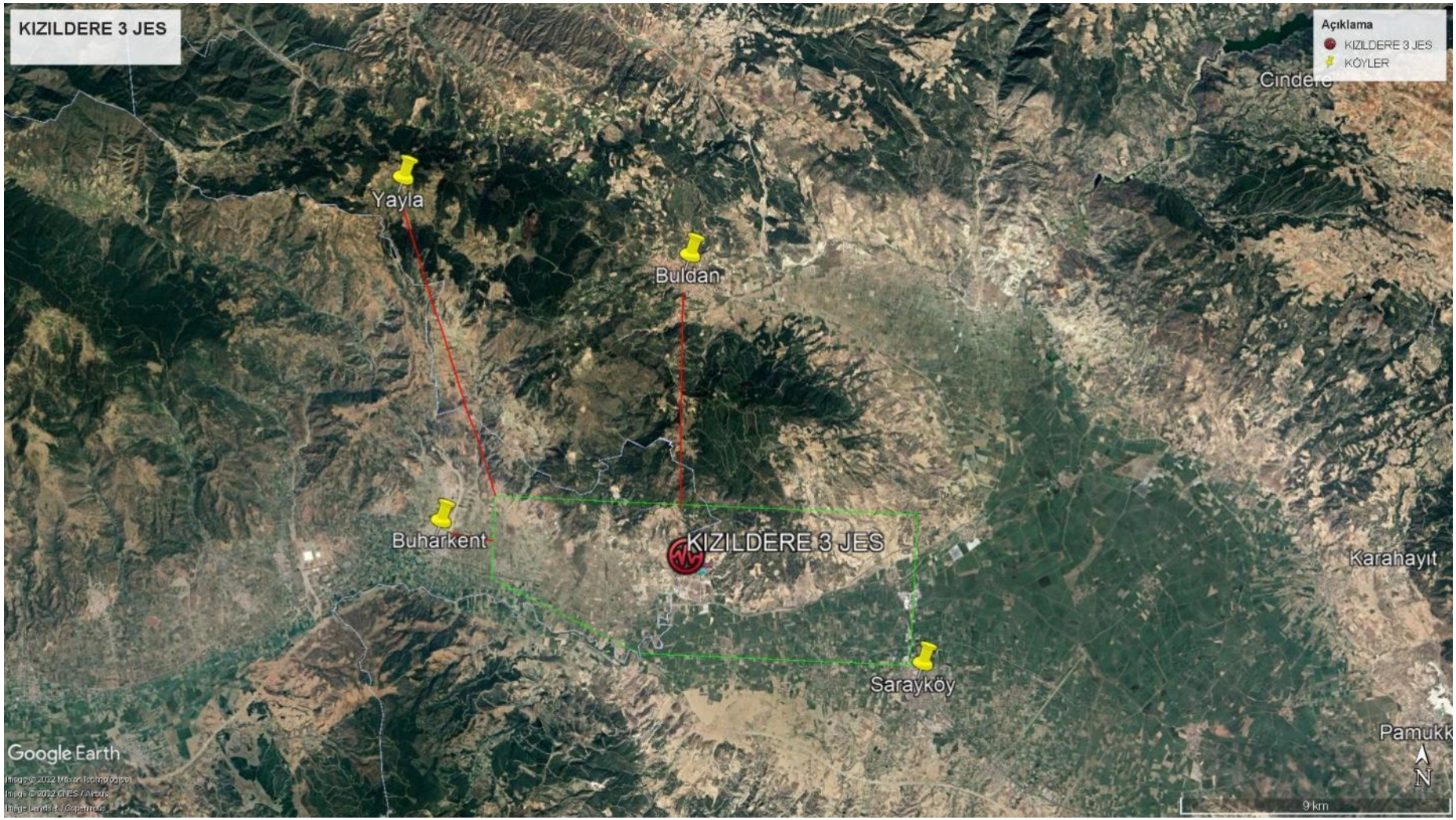


Figure 9: Villages (Neighborhoods) in the Vicinity of the Kızıldere-III GPP

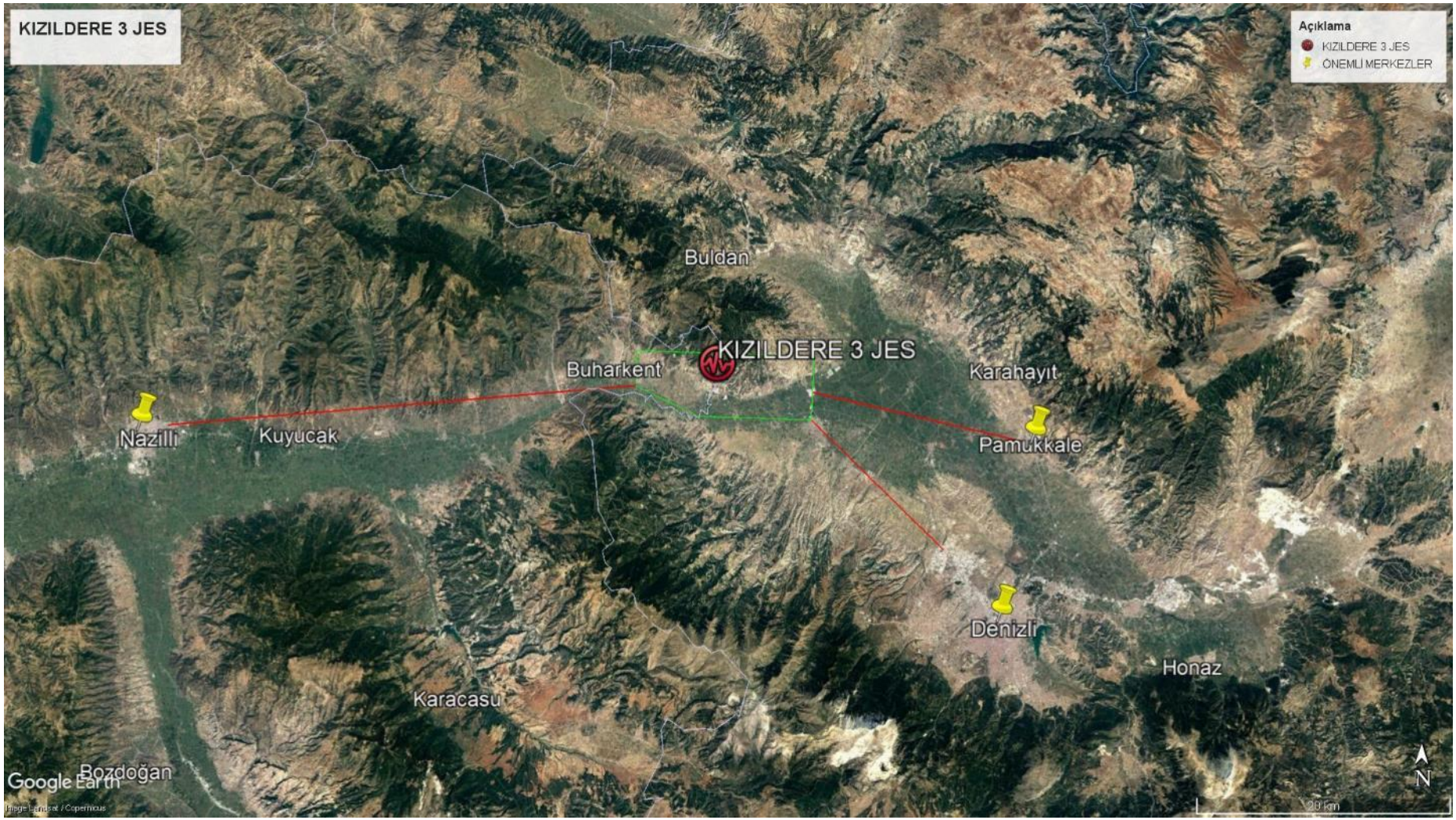


Figure 10: Settlements Near the Kızıldere-III GPP Project Site

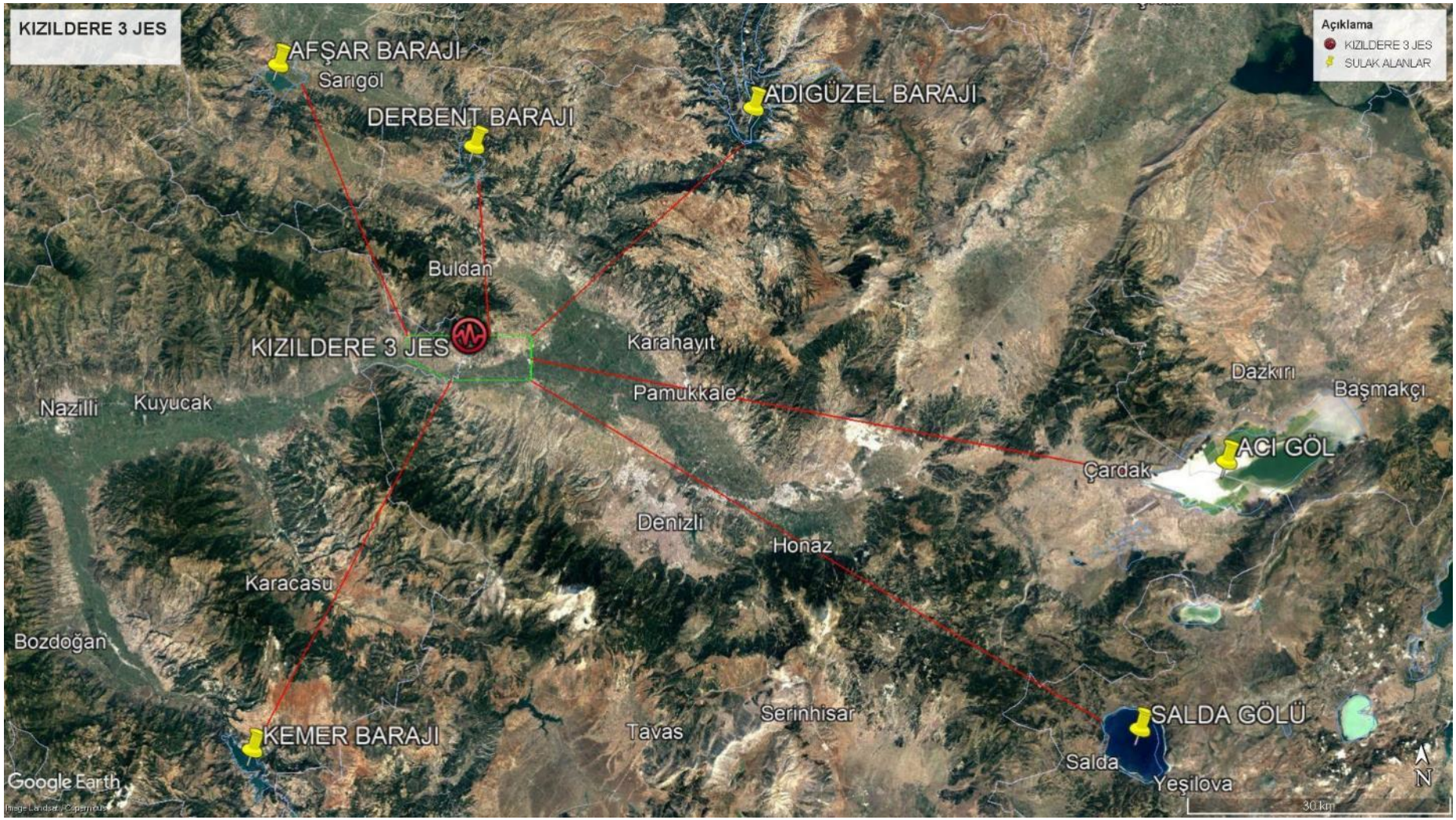


Figure 11: Significant Water Bodies Surrounding the Kızıldere-III GPP Project Site

1.2 Relationship of the Area with Protected and Special Status Areas

Given the location of the Kızıldere II-III Geothermal Power Plant (GPP) sites, an evaluation of the nearby protected areas and important natural sites reveals that Honaz Mountain National Park is approximately 32 km away and the Honaz Mountain (small area) is about 33 km away in a straight line from the project site. Additionally, Bozdağlar is located about 29 km away, Akdağ-Denizli is 1.5 km away, and the Honaz Mountain Important Natural Area is approximately 32 km away in a straight line (Figures 12-13, 14-15).

Figure 12: Satellite Image Showing the Relationship Between Kızıldere-II GPP and Protected Areas

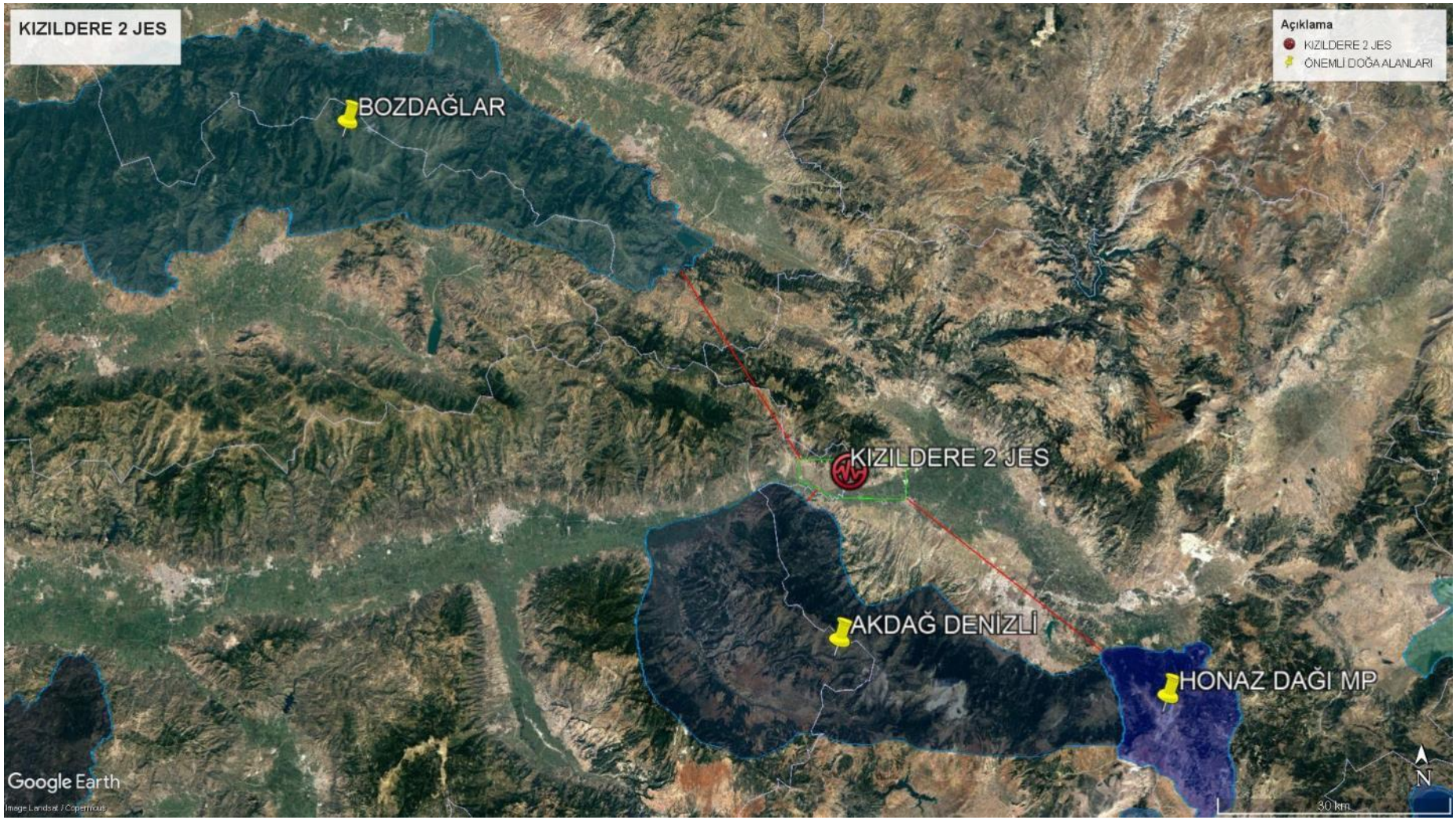


Figure 13: Satellite Image Showing the Relationship Between Kızıldere-II GPP and Protected Areas

Figure 14: Satellite Image Showing the Relationship Between Kızıldere-III GPP and Protected Areas

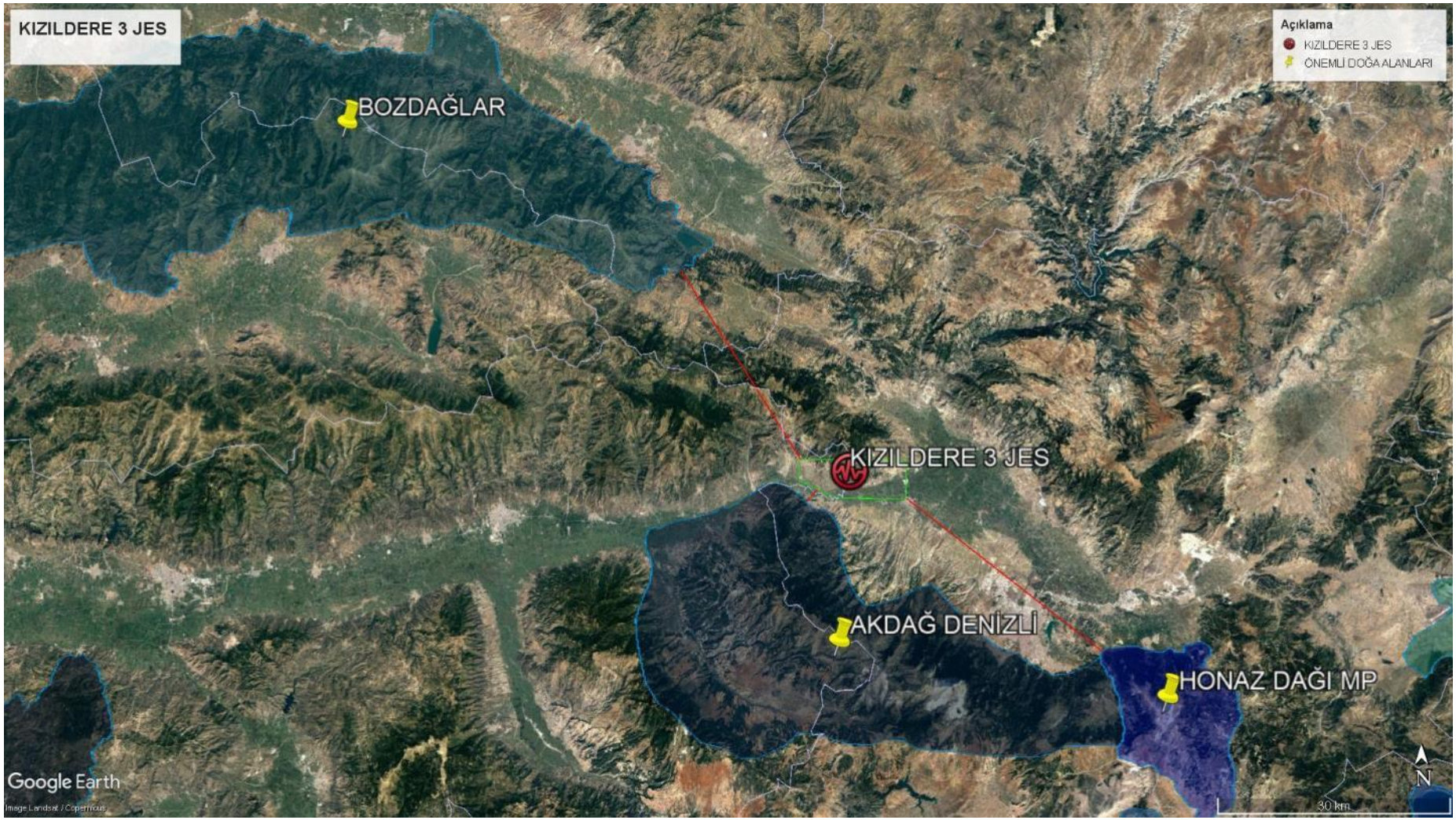


Figure 15: Satellite Image Showing the Relationship Between Kızıldere-III GPP and Protected Areas

1.3 Identification and Classification of Habitats in the Impact Area of the Kızıldere-II-III Geothermal Power Plant Facility

The Kızıldere-II-III Geothermal Power Plant (GPP) project, operated by Zorlu Doğal Elektrik Üretimi A.Ş., is located within the borders of Sarayköy district in Denizli province.

There are 13 different habitat types within the project area. Of these habitats, 4 are natural, while the remaining 9 are classified as modified habitats. The vegetation types that have developed in the natural areas are classified according to the EUNIS Habitat Classification with 1st, 2nd, and 3rd Level codes, as detailed below (Figures 16, 17).

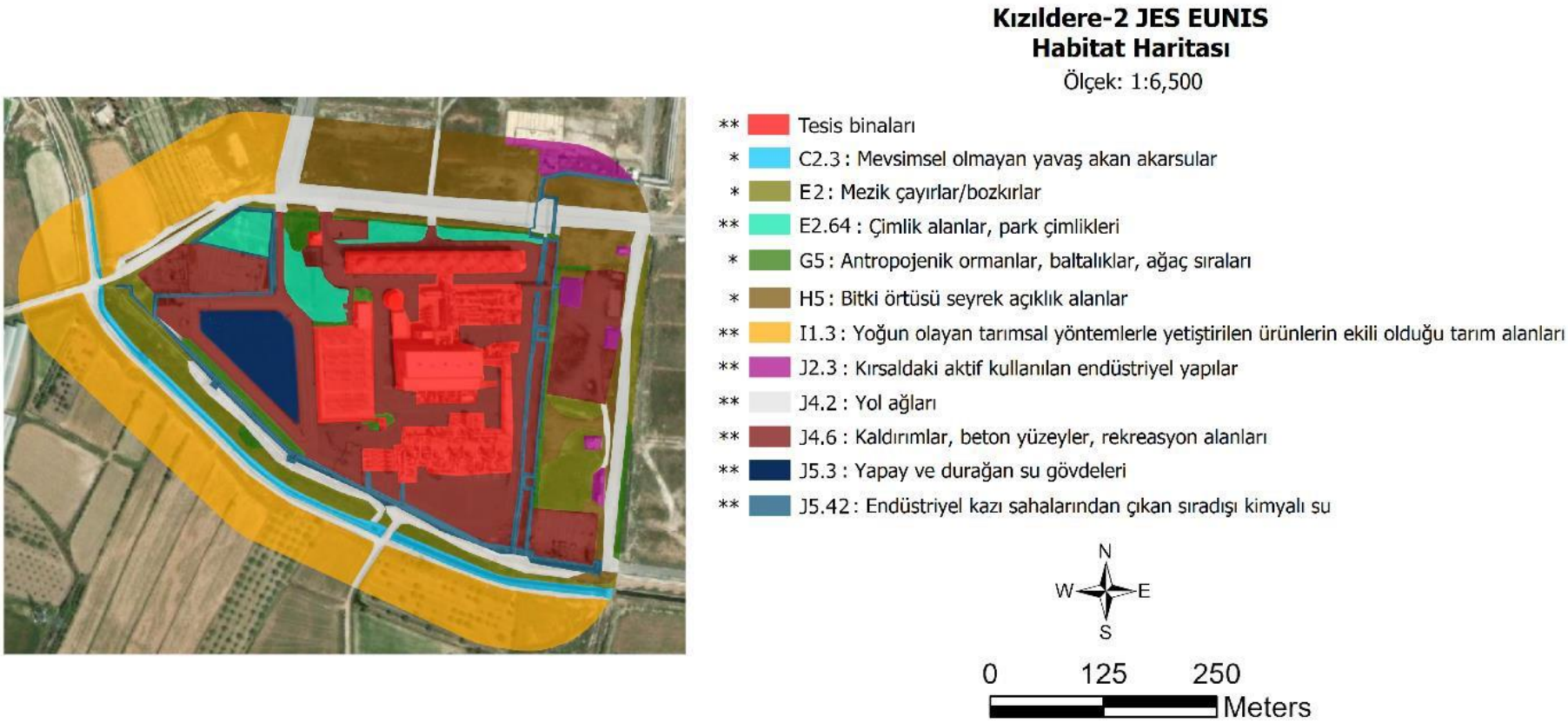


Figure 16: Kızıldere-II GPP EUNIS Habitat Map 1

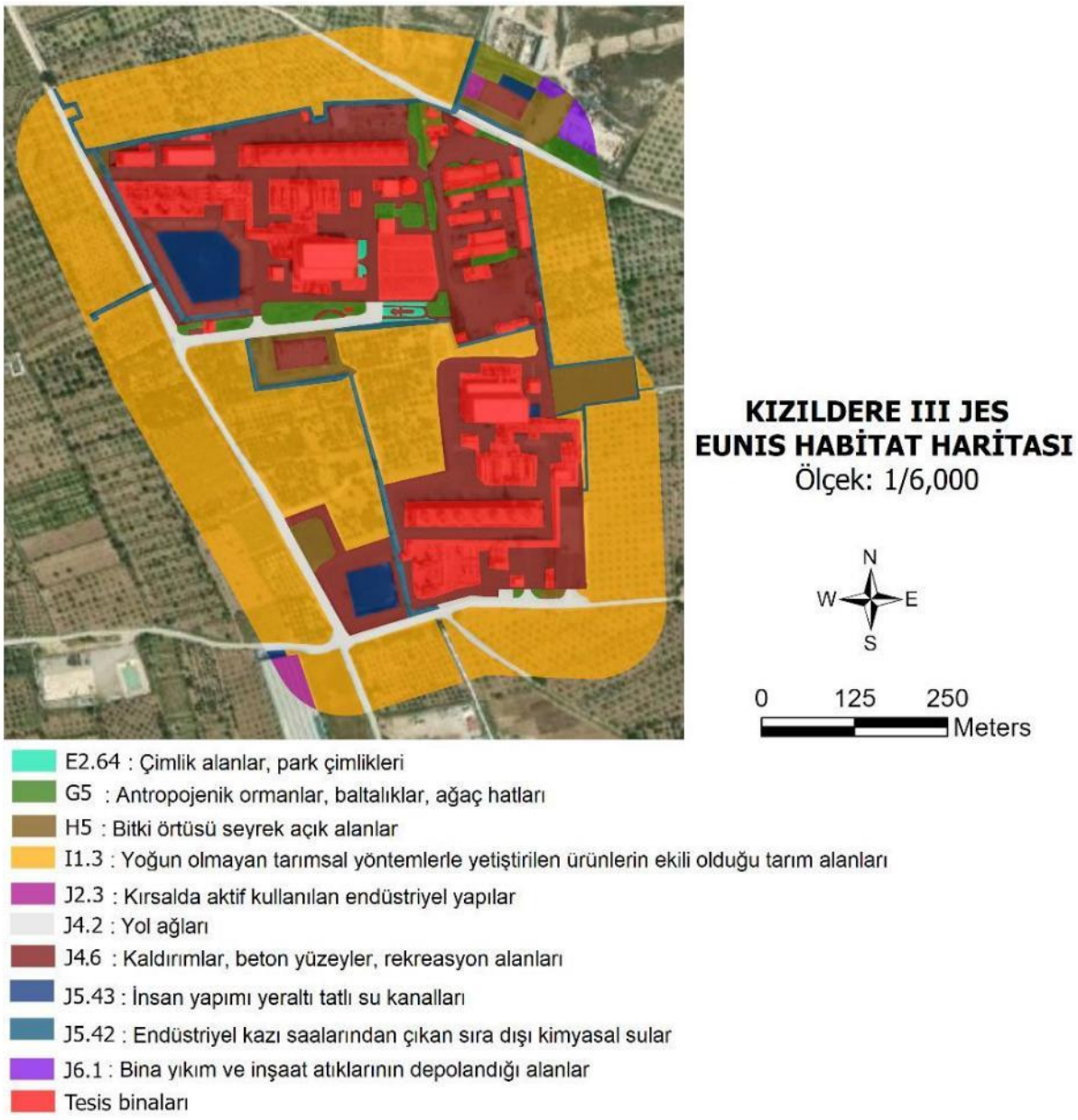


Figure 17: Kızıldere-III GPP EUNIS Habitat Map 1

- **Natural habitats**

C2.3 Seasonal Non Slow Flowing streams

In this habitat located at an altitude of 150 m within the facility; *inula viscosa , Phragmites australis , tamarix tetrandra , Juncus acutus* Species such as have been observed.

E2 Mezik meadows

In this habitat observed at an altitude of 180 m within the facility area; *Barbarea plantaginea , Oenothera glazioviana , Inula aucherana , Gnaphalium luteo-album subsp.leuto -album , Conyza canadensis , Cirsium creticum subsp. creticum , Centaurea hierapolitana , Periploca graeca there is. graeca , Myosotis sylvatica subsp.cyanea , Prunella vulgaris, Euphorbia falcata subsp.macrostegia , Galium rivale* plant taxa were identified.

G5 anthropogenic Forests, coppice Forests

In the habitat that starts within the 250 m facility area and continues outside; *genista acanthoclada ; Pinus Nigra subsp . nigra var. caramanica , Alyssum sibiricum , Cistus laurifolius , Vicia cuspidata , Lathyrus digitatus , Dorycnium pentaphyllum subsp.anatolicum , Bunium ferulaceum , Helichrysum plicatum subsp.plicatum , Cirsium vulgare , Centaurea solstitialis subsp.solstitialis , Xeranthemum inapertum , Crepis foetida subsp . commutata , Jasminum fruticans , Onosma aucheranum , Scrophularia floribunda , Veronica cymbalaria , Veronica triloba , Scutellaria orientalis subsp.alpina var. glandulosissima , Origanum sipyleum , Salvia frigida , plantago major subsp . intermedia , Viscum album subsp . austriacum , Allium atroviolaceum* There are plant taxa.

H5 Herb Cover Rare Clearance Areas

The facility is at an altitude of 230 m; *consolida regalis subsp.paniculata var. paniculata , Isatis glauca subsp . glauca , Alyssum dasycarpum var. dasycarpum , Fumana procumbens , Gypsophila perfoliata var. perfoliata , Atriplex rosea , Linum tenuifolium , Peganum harmala , Haplophyllum buxbaumii subsp . buxbaumii , Echinophora tournefortii , Bunium ferulaceum , Anthemis cretica subsp. tenuiloba , Achillea biebersteinii , Jurinea consanguinea , Carthamus dentatus , Tragopogon latifolius var. latifolius , Crepis foetida subsp . commutata , Marrubium parviflorum subsp . parviflorum , Ecballium elaterium* , plant taxa have been identified.

- **modified habitats**

J2.1, J2.3, Areas with habitat codes J4.2, J5.42, J6.1 are concrete, chemical water and asphalt and do not have floral content. However, cleaning the seeds that germinate in the cracks in these structures is important for the integrity of the system. Care should be taken to ensure that the plants used for landscaping and food purposes in the habitat coded E2.64 and J4.6 are not invasive species .

Photos one in the countryside Active Used Industrial Buildings (EUNIS: J2.3)

Photos 2 Path networks With sidewalks And Recreation Fields (EUNIS: J4.2 And J4.6)

Photos 3 Person making Salty Non This channels (EUNIS: J5.41)

Photos 4 lawn fields, Park lawns (EUNIS: E2.64)

1.2 Identification of Floristic Biodiversity in the Impact Area of Kızıldere-II-III GPP Facility

When we look at the vegetation structure of the Kızıldere III GPP site; Most of them are areas with orchards shaped by human influence. In Kızıldere II GPP , this situation is in the form of open areas with sparse vegetation.

IFC PS-6 and Guidance in terms of floristics at the KIZILDERE-II -III GPP facility site Considering the Note 6 criteria, since there are no plant taxa with CR and EN status, critical species and habitat assessments were not made within the scope of IFC. Therefore, there is no critical habitat hosting these taxa. Apart from the coppice tree communities whose cover has been broken by human influence, there are reeds, reeds and tamarisks in the non-seasonal, slow-flowing stream beds .

1.3 Kızıldere-II-III JES facility Effect in the field faunistic Defining Biodiversity

1.3.1 Amphibian

There is no endangered and/or endemic amphibian species in the project area. located in the area amphibian types widespread species. Project in the field amphibians in terms of One immortality and the precautions to be taken are not foreseen. On the contrary, during the transportation of project-sourced water to some areas, water leaking into the ground at some points creates suitable spots for amphibians .

Criterion 1: Refers to Critically Endangered (CR) and /or Endangered (EN) Species. There are no amphibian species in the CR and/or EN category in the project area.

Criterion 2: Refers to Endemic and/or Narrowly Ranged Species. There are no endemic and/or narrow-range amphibian species in the project area.

Criterion 3: Refers to Migratory and/or Community Concentrated Species. There is no amphibian species in the project area that meets this criterion.

Criterion 4: Refers to Highly Threatened and /or Uniquely Rare Ecosystems. Important habitats for amphibian species in the project area are aquatic habitats. The project has been operating in the area for many years. Life water is released into the stream bed. The river environment is largely composed of natural habitats. is formed. In the current situation, it is not possible to say that the river habitat and its immediate surroundings are under high threat.

1.3.2 Reptiles

The only reptile species in the project area that is vulnerable to extinction according to IUCN lists **is the Tortoise (*Testudo graeca*)** and is listed in the VU category. Tortoise is also included in the BERN Convention ANNEX-II and CITES ANNEX-II lists. Also in the region **is the Anatolian lizard (*Anatololacerta)*** , a largely endemic lizard. ***anatolicus*)** is distributed. This species has a wide distribution from the Büyük Menderes River northward to the Marmara Region. The IUCN category is LC .

There are no reptile species that are likely to be directly affected by the project. The facilities have been operating in the region for many years. Although there may be species affected by the project during the construction phase, the facilities do not emit any emissions such as noise, dust, or polluted air into the environment during the current operation phase.

In this context, if we make a critical habitat assessment of the project area in line with faunistic data;

Criterion 1: Refers to Critically Endangered (CR) and /or Endangered (EN) Species. **There are no** reptile species in the CR and/or EN category in the project area .

Criterion 2: Refers to Endemic and/or Narrowly Ranged Species. It refers to Endemic and/or Narrowly Ranged Species. It refers to Endemic and/or Narrowly Ranged Species. **Anatolian lizard (*Anatololacerta)*** , which is endemic to the project site ***anatolicus*)** is distributed. The distribution area of this endemic species is more than 50,000 square kilometers (km2) . is too much. Project area This your species spherical population the size of ≥10% And One your species reproductive of unit
It is not possible to say that there is an area that regularly hosts ≥10 of them. This According to the available information, the project site **does not meet the threshold value for Criterion 2.**

Criterion 3: Immigrant and/or Community In case of condensing Types expression It does. **There is no** reptile species in the project area that meets this criterion .

Criterion 4: Refers to Highly Threatened and /or Uniquely Rare Ecosystems. The important habitat types for reptile species in the project area are the natural habitats in the region. The project has been operating in the area for many years. Natural habitats in the project area have not been negatively affected by the project. Since the project has been in operation for many years, the negative effects that occurred during the construction phase seem to have largely returned to normal. Currently, no adverse effects **have been observed on the reptile species widespread in the region** .

1.3.3 Mammals

in the region generation in danger and/or endemic One mammal There is no type .

Criterion 1: Refers to Critically Endangered (CR) and /or Endangered (EN) Species. **There are no** mammal species in the CR and/or EN category in the project area .

Criterion 2: Refers to Endemic and/or Narrowly Ranged Species. There are no endemic and/or narrow-range **mammal species in the project area.**

Criterion 3: Refers to Migratory and/or Community Concentrated Species. **There is no** mammal species in the project area that meets this criterion .

Criterion 4: Refers to Highly Threatened and /or Uniquely Rare Ecosystems. The important habitat types for mammal species in the project area are the natural habitats and stream beds in the region. The project has been operating in the area for many years. Natural habitats in the region have not been negatively affected by the project. Since the project has been in operation for many years, the negative effects that occurred during the construction phase seem to have largely returned to normal. Currently, no adverse effects **have been observed on mammal species distributed in the region** .

Criterion 5: Topography, geology, soil, temperature, vegetation, and combinations of these factors One of the region structural features species local to take shape And ecological features It can affect the evolutionary processes that lead to In some cases, distinctive spatial features form populations or subpopulations of genetically unique plant and animal species. associated with their populations. Physical or spatial features have been identified as spatial catalysts for evolutionary and ecological processes, and features such as these are often associated with species diversity . Species (or subpopulations of species) that emerge due to the maintenance of basic evolutionary processes inherent in an area have become the main focus in recent years, along with the conservation of biodiversity, especially the process of preserving genetic diversity. By maintaining species diversity in an area, the genetic diversity within species as well as the processes that drive speciation ensure evolutionary resilience in a system, which is especially important in rapidly changing climate conditions.

For illustrative purposes, here are some potential examples of areal features associated with evolutionary processes,

Regions with high spatial heterogeneity are a positive force for speciation, as species are naturally selected for their ability to adapt and diversify.

Environmental gradients, also known as ecotones , produce transitional habitat that is associated with the process of speciation and high species and genetic diversity.

edaphic interfaces are areas of soil types (e.g. serpentine outcrops, limestone) that lead to the formation of unique plant communities characterized by both rarity and endemism. and gypsum sediments) are special sequences.

Connection between habitats (e.g. biological corridors), especially fragmented It is important in the maintenance of habitats and metapopulations and ensures species migration and gene flow. This connection also extends across elevation and climate gradients and across crest-to- coast to coast)" also includes biological corridors.

Areas with proven importance for adaptation to climate change for both species and ecosystems are also included in this criterion.
The importance of structural features in an area that can influence evolutionary processes will be determined on a case-by-case basis, and the determination of critical habitat will be largely based on scientific knowledge. I n many cases, this criterion will apply to areas that have been previously investigated and are known or suspected to be associated with unique evolutionary processes. Although systematic methods exist to measure and prioritize evolutionary processes in a field , these methods are beyond the reasonable conditions of evaluations typically conducted by the private sector.

Criterion 5 was evaluated together for Amphibians, Reptiles and Mammals. Criterion 5 involves evaluating whether the region generally contains significant evolutionary processes. The area where Kızıldere-II-III GPP Facility is located does not show a special evolutionary process. The region does not have a special geological structure or a special history and therefore does not contain a large number of critical and/or endemic species. In this regard, the area **does not meet** Criterion 5 .

1.3.4 Ornithology

As a result of the studies, a total of 151 bird species were identified in the project area and its immediate surroundings. The list of these species, their global Red List status, and the status of the species in BERN, CITES and MAK decisions of 2022 are given in Table 1 below.

Facility around found bird from types 3 of grain generation spherical on scale threatening is below. These species are Elmabaş Patka (*Aythya ferina*), Küçük Sakarca (*Anser erythropus*) and stepmother (*Streptopelia turtur)* species, and the most current Red List assessments of all of these species are in the “VU” category, that is, sensitive (IUCN, 2022). Of the species found around the facilities, 102 are in BERN Agreement Annex-2, 39 are in BERN Agreement Annex-3, 1 of them is included in CITES Annex-1 and 13 of them are included in CITES Annex-2.

In this context, if we make a critical habitat assessment of the project area in line with faunistic data;

Habitats Important to Critically Endangered (CR) or Endangered (EN) Species

No “CR” or “EN” category bird species were detected around the facilities. Therefore, this criterion is not triggered.

Criterion 2: endemic And Narrow widespread Species For Important Habitats

Facility birds around This criterion It does not trigger.

Criterion 3: Habitats Hosting Globally Significant Numbers of Migratory and Foraging Species

It has been determined that there are migratory birds among the listed species in and around the facility area. Considering the topographic location of the facility, the project is not expected to cause a serious problem for migratory bird populations.

Criterion 4: High at level Threatening under And /Or Unique Rare Ecosystems

None of the habitats around the site are listed as high level or unique ecosystems on the IUCN Red List of Ecosystems and therefore this criterion will not be triggered.

Criterion 5: Important Evolutionary Processes With identified habitats

The Kızıldere-II-III GPP Facility does not differ significantly from the surrounding region in terms of elevation, moisture gradients, or any other geological, ecological, or evolutionary factor that indicates that the region is vital for sustaining unique or distinctive evolutionary processes. Therefore, none of the habitats around the facility trigger Criterion 5.

Table one Project in the field Found And Finding Likely Bird Types

Type Scientific First Name	English Name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
Accipiter nisus	Eurasian Sparrowhawk	Not Endemic	LC	Annex 2	KD	Annex 2
Acrocephalus arundinaceus	Great Reed Warbler	Not Endemic	LC	Annex 2	KD	KD
Acrocephalus melanopogon	Moustached Warbler	Not Endemic	LC	Annex 2	KD	KD
Acrocephalus schoenobaenus	Sedge Warbler	Not Endemic	LC	Annex 2	KD	KD
Acrocephalus scirpaceus	Eurasian Reed Warbler	Not Endemic	LC	Annex 2	KD	KD
Actitis hypoleucos	Common Sandpiper	Not Endemic	LC	Annex 2	KD	KD
Alauda arvensis	Eurasian Skylark	Not Endemic	LC	Annex 3	Annex 1	KD
Alcedo atthis	Common Kingfisher	Not Endemic	LC	Annex 2	KD	KD
Anas acuta	Northern Pintail	Not Endemic	LC	Annex 3	Annex 2	KD
Anas crecca	Eurasian Teal	Not Endemic	LC	Annex 3	Annex 2	KD
Anas platyrhynchos	Mallard	Not Endemic	LC	Annex 3	Annex 2	KD
Anser albifrons	Greater White-fronted Goose	Not Endemic	LC	Annex 3	Annex 2	KD
Anser erythropus	Lesser White-fronted Goose	Not Endemic	VU	Annex 2	KD	KD
Anthus cervinus	Red-throated Pipit	Not Endemic	LC	KD	KD	KD
Anthus pratensis	Meadow Pipit	Not Endemic	LC	Annex 2	KD	KD
Anthus spinoletta	Water Pipit	Not Endemic	LC	Annex 2	KD	KD
Apus apus	Common Swift	Not Endemic	LC	Annex 3	KD	KD
Apus melba	Alpine Swift	Not Endemic	LC	Annex 2	KD	KD
Ardea alba	Great Egret	Not Endemic	LC	Annex 2	KD	KD
Ardea cinerea	Grey Heron	Not Endemic	LC	Annex 3	Annex 1	KD
Ardea purpurea	Purple Heron	Not Endemic	LC	Annex 2	KD	KD
Ardeola ralloides	Squacco Heron	Not Endemic	LC	Annex 2	KD	KD
Athene noctua	Little Owl	Not Endemic	LC	Annex 2	KD	Annex 2

Type Scientific First Name	English Name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
Aythya ferina	Common Pochard	Not Endemic	VU	Annex 3	Annex 2	KD
Aythya nyroca	Ferruginous Duck	Not Endemic	NT	Annex 3	KD	KD
Botaurus stellaris	Great Bittern	Not Endemic	LC	Annex 2	KD	KD
Buteo buteo	Common Buzzard	Not Endemic	LC	Annex 2	KD	Annex 2
Buteo rufinus	Long-legged Buzzard	Not Endemic	LC	Annex 2	KD	Annex 2
Calidris alba	Sanderling	Not Endemic	LC	Annex 2	KD	KD
Calidris alpina	Dunlin	Not Endemic	LC	Annex 2	KD	KD
Calidris minuta	Little Stint	Not Endemic	LC	Annex 2	KD	KD
Calidris pugnax	Ruff	Not Endemic	LC	Annex 3	Annex 1	KD
Carduelis carduelis	European Goldfinch	Not Endemic	LC	Annex 2	KD	KD
Cecropis daurica	Red-rumped Swallow	Not Endemic	LC	Annex 2	KD	KD
Cettia cetti	Cetti's Warbler	Not Endemic	LC	Annex 2	KD	KD
Charadrius alexandrinus	Kentish Plover	Not Endemic	LC	Annex 2	KD	KD
Charadrius dubius	Little Ringed Plover	Not Endemic	LC	Annex 2	KD	KD
Charadrius hiaticula	Common Ringed Plover	Not Endemic	LC	Annex 2	KD	KD
Chlidonias hybrida	Whiskered Tern	Not Endemic	LC	Annex 2	KD	KD
Chlidonias leucopterus	White-winged Tern	Not Endemic	LC	Annex 2	KD	KD
Chloris chloris	European Greenfinch	Not Endemic	LC	Annex 2	KD	KD
Chroicocephalus ridibundus	Black-headed Gull	Not Endemic	LC	Annex 3	Annex 1	KD
Ciconia ciconia	White Stork	Not Endemic	LC	Annex 2	KD	KD
Ciconia nigra	Black Stork	Not Endemic	LC	Annex 2	KD	Annex 2
Circaetus gallicus	Short-toed Snake Eagle	Not Endemic	LC	Annex 2	KD	Annex 2
Circus aeruginosus	Western Marsh Harrier	Not Endemic	LC	Annex 2	KD	Annex 2
Circus cyaneus	Northern Harrier	Not Endemic	LC	Annex 2	KD	Annex 2

Type Scientific First Name	English Name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
Cisticola juncidis	Zitting Cisticola	Not Endemic	LC	KD	KD	KD
Clamator glandarius	Great Spotted Cuckoo	Not Endemic	LC	Annex 2	KD	KD
Columba livia	Rock Dove	Not Endemic	LC	Annex 3	Annex 2	KD
Columba palumbus	Common Wood Pigeon	Not Endemic	LC	KD	Annex 2	KD
Coracias garrulus	European Roller	Not Endemic	LC	Annex 2	KD	KD
Corvus corax	Common Raven	Not Endemic	LC	Annex 3	Annex 1	KD
Corvus cornix	Hooded Crow	Not Endemic	LC	KD	Annex 2	KD
Corvus frugilegus	Rook	Not Endemic	LC	KD	Annex 2	KD
Corvus monedula	Eurasian Jackdaw	Not Endemic	LC	KD	Annex 2	KD
Curruca melanocephala	Sardinian Warbler	Not Endemic	LC	Annex 2	KD	KD
Cyanistes caeruleus	Eurasian Blue Tit	Not Endemic	LC	Annex 2	KD	KD
Cygnus columbianus	Tundra Swan	Not Endemic	LC	KD	KD	KD
Delichon urbicum	Common House Martin	Not Endemic	LC	Annex 2	KD	KD
Dendrocopos syriacus	Syrian Woodpecker	Not Endemic	LC	Annex 2	KD	KD
Egretta garzetta	Little Egret	Not Endemic	LC	Annex 2	KD	KD
Emberiza caesia	Cretzschmar's Bunting	Not Endemic	LC	Annex 2	KD	KD
Emberiza calandra	Corn Bunting	Not Endemic	LC	Annex 3	Annex 1	KD
Emberiza cirlus	Cirl Bunting	Not Endemic	LC	Annex 2	KD	KD
Emberiza citrinella	Yellowhammer	Not Endemic	LC	Annex 2	KD	KD
Emberiza melanocephala	Black-headed Bunting	Not Endemic	LC	Annex 2	KD	KD
Emberiza schoeniclus	Common Reed Bunting	Not Endemic	LC	Annex 2	KD	KD
Erithacus rubecula	European Robin	Not Endemic	LC	Annex 2	KD	KD
Falco columbarius	Merlin	Not Endemic	LC	Annex 2	KD	Annex 2
Falco eleonorae	Eleonora's Falcon	Not Endemic	LC	Annex 2	KD	Annex 2

Type Scientific First Name	English Name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
Falco peregrinus	Peregrine Falcon	Not Endemic	LC	Annex 2	KD	Annex 1
Falco tinnunculus	Common Kestrel	Not Endemic	LC	Annex 2	KD	Annex 2
Ficedula hypoleuca	Pied Flycatcher	Not Endemic	LC	Annex 2	KD	KD
Fringilla coelebs	Common Chaffinch	Not Endemic	LC	Annex 3	Annex 1	KD
Fulica atra	Eurasian Coot	Not Endemic	LC	Annex 3	Annex 2	KD
Galerida cristata	Crested Lark	Not Endemic	LC	Annex 3	Annex 1	KD
Gallinago gallinago	Common Snipe	Not Endemic	LC	Annex 3	Annex 2	KD
Gallinula chloropus	Common Moorhen	Not Endemic	LC	Annex 3	Annex 2	KD
Garrulus glandarius	Eurasian Jay	Not Endemic	LC	KD	Annex 2	KD
Gelochelidon nilotica	Gull-billed Tern	Not Endemic	LC	Annex 2	KD	KD
Himantopus himantopus	Black-winged Stilt	Not Endemic	LC	Annex 2	KD	KD
Hirundo rustica	Barn Swallow	Not Endemic	LC	Annex 2	KD	KD
Iduna pallida	Eastern Olivaceous Warbler	Not Endemic	LC	Annex 2	KD	KD
Ixobrychus minutus	Little Bittern	Not Endemic	LC	Annex 2	KD	KD
Lanius collurio	Red-backed Shrike	Not Endemic	LC	Annex 2	Annex 1	KD
Lanius minor	Lesser Grey Shrike	Not Endemic	LC	Annex 2	KD	KD
Lanius senator	Woodchat Shrike	Not Endemic	LC	Annex 2	KD	KD
Linaria cannabina	Common Linnet	Not Endemic	LC	Annex 2	KD	KD
Lullula arborea	Woodlark	Not Endemic	LC	Annex 3	Annex 1	KD
Mareca penelope	Eurasian Wigeon	Not Endemic	LC	Annex 3	Annex 2	KD
Mareca strepera	Gadwall	Not Endemic	LC	Annex 3	Annex 2	KD
Melanocorypha calandra	Calandra Lark	Not Endemic	LC	Annex 2	KD	KD
Merops apiaster	European Bee-eater	Not Endemic	LC	Annex 2	KD	KD
Motacilla alba	White Wagtail	Not Endemic	LC	Annex 2	KD	KD

Type Scientific First Name	English Name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
Motacilla cinerea	Grey Wagtail	Not Endemic	LC	Annex 2	KD	KD
Motacilla flava	Yellow Wagtail	Not Endemic	LC	Annex 2	KD	KD
Muscicapa striata	Spotted Flycatcher	Not Endemic	LC	Annex 2	KD	KD
Netta rufina	Red-crested Pochard	Not Endemic	LC	Annex 3	Annex 2	KD
Oenanthe finschii	Finsch's Wheatear	Not Endemic	LC	Annex 2	KD	KD
Oenanthe isabellina	Isabelline Wheatear	Not Endemic	LC	Annex 2	Annex 1	KD
Oenanthe melanoleuca	Eastern Black-eared Wheatear	Not Endemic	LC	Annex 2	KD	KD
Oenanthe oenanthe	Northern Wheatear	Not Endemic	LC	Annex 2	Annex 1	KD
Parus major	Great Tit	Not Endemic	LC	Annex 2	KD	KD
Passer domesticus	House Sparrow	Not Endemic	LC	KD	Annex 2	KD
Passer hispaniolensis	Spanish Sparrow	Not Endemic	LC	Annex 3	Annex 1	KD
Passer montanus	Eurasian Tree Sparrow	Not Endemic	LC	Annex 3	Annex 1	KD
Petronia petronia	Rock Sparrow	Not Endemic	LC	Annex 2	KD	KD
Phalacrocorax carbo	Great Cormorant	Not Endemic	LC	Annex 3	Annex 1	KD
Phoenicopterus roseus	Greater Flamingo	Not Endemic	LC	Annex 2	KD	Annex 2
Phoenicurus ochruros	Black Redstart	Not Endemic	LC	Annex 2	KD	KD
Phylloscopus collybita	Common Chiffchaff	Not Endemic	LC	Annex 2	KD	KD
Phylloscopus trochilus	Willow Warbler	Not Endemic	LC	Annex 2	KD	KD
Pica pica	Eurasian Magpie	Not Endemic	LC	Annex 2	KD	KD
Platalea leucorodia	Eurasian Spoonbill	Not Endemic	LC	Annex 2	KD	KD
Plegadis falcinellus	Glossy Ibis	Not Endemic	LC	Annex 2	KD	KD
Podiceps grisegena	Red-necked Grebe	Not Endemic	LC	Annex 2	KD	KD
Podiceps nigricollis	Black-necked Grebe	Not Endemic	LC	Annex 2	KD	KD
Rallus aquaticus	Water Rail	Not Endemic	LC	Annex 3	Annex 1	KD

Type Scientific First Name	English Name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
Recurvirostra avosetta	Pied Avocet	Not Endemic	LC	Annex 2	KD	KD
Regulus regulus	Goldcrest	Not Endemic	LC	Annex 2	KD	KD
Remiz pendulinus	Eurasian Penduline Tit	Not Endemic	LC	Annex 3	KD	KD
Saxicola rubetra	Whinchat	Not Endemic	LC	Annex 2	KD	KD
Saxicola rubicola	Common Stonechat	Not Endemic	LC	Annex 2	KD	KD
Serinus serinus	European Serin	Not Endemic	LC	Annex 2	KD	KD
Sitta neumayer	Rock Nuthatch	Not Endemic	LC	Annex 2	KD	KD
Spatula clypeata	Northern Shoveler	Not Endemic	LC	Annex 3	Annex 1	KD
Spatula querquedula	Garganey	Not Endemic	LC	Annex 3	Annex 2	KD
Streptopelia decaocto	Eurasian Collared Dove	Not Endemic	LC	Annex 3	Annex 1	KD
Streptopelia senegalensis	Laughing Dove	Not Endemic	LC	Annex 3	Annex 1	KD
Streptopelia turtur	European Turtle Dove	Not Endemic	VU	Annex 3	Annex 2	KD
Sturnus vulgaris	Common Starling	Not Endemic	LC	KD	Annex 1	KD
Sylvia atricapilla	Eurasian Blackcap	Not Endemic	LC	Annex 2	KD	KD
Tachybaptus ruficollis	Little Grebe	Not Endemic	LC	Annex 2	KD	KD
Tadorna ferruginea	Ruddy Shelduck	Not Endemic	LC	Annex 2	KD	KD
Tadorna tadorna	Common Shelduck	Not Endemic	LC	Annex 2	KD	KD
Tringa erythropus	Spotted Redshank	Not Endemic	LC	Annex 2	KD	KD
Tringa glareola	Wood Sandpiper	Not Endemic	LC	Annex 2	KD	KD
Tringa nebularia	Common Greenshank	Not Endemic	LC	Annex 3	Annex 1	KD
Tringa ochropus	Green Sandpiper	Not Endemic	LC	Annex 2	KD	KD
Tringa stagnatilis	Marsh Sandpiper	Not Endemic	LC	Annex 2	KD	KD
Tringa totanus	Common Redshank	Not Endemic	LC	Annex 3	Annex 1	KD
Troglodytes troglodytes	Eurasian Wren	Not Endemic	LC	Annex 2	KD	KD

Type Scientific First Name	English Name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
Turdus merula	Common Blackbird	Not Endemic	LC	Annex 3	Annex 2	KD
Turdus philomelos	Song Thrush	Not Endemic	LC	Annex 3	Annex 2	KD
Turdus viscivorus	Mistle Thrush	Not Endemic	LC	Annex 3	Annex 1	KD
Tyto alba	Barn Owl	Not Endemic	LC	Annex 2	KD	Annex 2
Upupa epops	Eurasian Hoopoe	Not Endemic	LC	Annex 2	KD	KD
Vanellus spinosus	Spur-winged Lapwing	Not Endemic	LC	Annex 2	KD	KD
Vanellus vanellus	Northern Lapwing	Not Endemic	NT	Annex 3	Annex 1	KD
Zapornia parva	Little Crake	Not Endemic	LC	Annex 2	KD	KD

1.4 Kızıldere-II-III JES facility Effect in the field hydrobiological biodiversity Definition

In the study conducted at Kızıldere-II-III GPP Facilities, no algae, zooplankton, benthic No aquatic organisms or fish were found. However, it has been determined that there is seasonal flow in the stream beds within the facility. These flows generally occur in the spring and since they occur after rain, they dry out when the rain ends. For this reason, no aquatic creature can show signs of life.

the seasonal flow carries sediment , an embankment dam was created in the area close to the starting point of the stream, with the intention of creating a measure to prevent floods, floods and similar situations within the facility **(Photo 5).**

Photos 5 View from the Embankment Dam Built on the Seasonal Stream Passing through the Facility

This dam set was created as a result of erosion caused by rain, especially during seasonal flows. from the mountains This with together incoming other materials also (soil, stone, herb etc.) holding It prevents them from coming into the facility (Photo 6).

Photos 6 View from Behind the Anti-Efill Dam Built on the Seasonal Stream Passing through the Facility

1.5 biodiversity Risk Evaluation

1.5.1 Flora

IFC PS-6 and Guidance in terms of floristics at the KIZILDERE-II-III GPP facility site Considering the Note 6 criteria, since there are no plant taxa with CR and EN status, critical species and habitat assessments were not made within the scope of IFC.

- **Invasive Species**

Alien invasive species, either accidentally or intentionally, move beyond their natural geographic range and become problematic. They often arise due to the globalization of the economy through the movement of people and goods, such as ship transportation, shipments of wood products, consignments carrying insects, or transportation of ornamental plants to new regions. The EU developed ***Regulation (EU) 1143/2014*** to actively deal with alien invasive species .

Alien invasive species (IAS) can cause serious ecological impacts on invaded environments. They may lack natural predators in their new environment, allowing them to increase their abundance and spread rapidly. They can carry diseases, compete with or prey on native species, alter food chains, and even alter ecosystems, for example by altering soil composition or creating habitats that encourage wildfires. These impacts can lead to local or global extinction of native species and ultimately ecological destruction.

IAS can also have significant socio -economic impacts. The European Union (EU) faces losses worth EUR 12 billion annually due to the effects of IAS on human health, infrastructure damage and agricultural damage.

There are more than 12,000 alien species in Europe, 15% of which are invasive. IAS, European threat It is the third most serious threat to the species below. According to a report published in 2015, 354 endangered species (229 animals, 124 plants and 1 fungus) are among all threatened species in Europe. It is clearly affected by IAS, accounting for 19% of the species under it . The newly adopted EU Biodiversity Strategy highlights the importance of tackling this threat by proposing to manage established alien invasive species and reduce the number of Red List species they threaten by 50% by 2030.

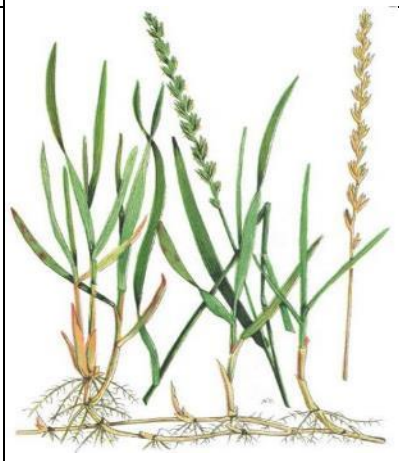
In 2013, the European Commission (EC) put forward a proposed law within the framework of an EU Directive on IAS, providing for prevention of their introduction, early warning/rapid response and effective and coordinated management. topics forward It lasted. IUCN, WHITE with made One soap opera service contract And In collaboration with the IUCN Invasive Species Expert Group (ITUG) , it has been providing technical and scientific support to the implementation of the EU IAS Regulation since 2016.

Invasive flora species have been detected in the impact area of the project (Table 2). biodiversity The Action Plan must be followed.

Energy investment areas are areas shaped by human influence. Construction activities arising from the nature of the investment in these areas have been tried to be rehabilitated through landscape planning around the roads and buildings. The ability of some plant species used here to survive and spread in the area causes them to be called invasive species. Apart from rehabilitation studies, species carried by floods or faunistic sources may also have the same nature. For these reasons, in order to preserve the existence of the natural areas within the energy investment area, the individuals and diaspores (reproductive units) of these plants must be cleared from the area.

Timing: Controlling invasive plant species should be done before the plant goes to seed. If the plant is known for its above-ground parts before flowering, the removal is done in the spring; otherwise, it is removed immediately after flowering.

Table 2 Project in the field Found And Availability Possibility of The one which Invader Species

Acer negundo (ash tree leafy maple) Areas open to andropogenic influence	
agropyron repens (Separate herb) Field, open area	
ailanthus altissima (Kokarağaç) andropogenic to the effect open spaces	
amaranthus retroflexus (Fox dry) Field, open area	

Boreava orientalis (Sariot) Field, roadside	
chenopodium album (While crying) Flood, flood bearings	
Cirsium arvense (Köygöçüren) Flood, flood bearings	
conyza canadensis (cypress) andropogenic to the effect open fields	

conyza bonariensis (Coyote) andropogenic to the effect open fields	
conyza albida (Maplewort) andropogenic to the effect open spaces	
Cuscuta campestris (Turkish) meadow-pasture habitats	

Lepidium draba (Diğnik) andropogenic to the effect open spaces	
nasturtium officinale (Suteresi) streamside	
Reseda lutea (Love flower) Path edge, field	
Rumex acetocella (Sorrel) Path edge, field And barren places	

Senecio vernalis (Canary herb) Path edge And person Fields shaped by the influence	
Sicyos angulatus (Itdolanbacı) Damp fields	
Solanum americanum (Push grape) This edge And damp shady places	
portulaca oleracea (Purslane) Field, open area	
phytolacca americana (Candymaker's paint) Stream beds and moist habitats	

paspalum distichum (This discrete) This communities inside on channels	
Robinia pseudoacacia (White flowering liar acacia) roadsides	
xanthium strumarium (Big Pıtrak) Flood, flood bearings	
xanthium spinosum (Yellow Pıtrak) Flood, flood bearings	

Viscum album (Lime herb) to the trees interference	

1.5.2 Fauna

IFC PS-6 and Guidance Considering the Note 6 criteria, the "critical species" evaluation and "critical habitat" evaluation were made in section 5 , and there is no Critical species in terms of fauna (Amphibia, Reptile, Mammal) in the region, and accordingly, there is no critical habitat .

Tortoise (*Testudo graeca*): This species has been seen around the area. Its presence in the region has been assessed sparsely. It would be useful to raise awareness about the species and take some precautions to prevent harm to the species, especially in human-tortoise encounters. These issues are detailed in the Biodiversity Action Plan.

1.5.3 Ornithology

IFC PS-6 and Guidance Considering the Note 6 criteria, “critical type” evaluation and “critical habitat” assessment in chapter 5 made is, birds in the area in terms of There are no critical species.

Many water birds have been identified in the wetlands around the facility, and 2 of these water birds are threatened on a global scale. These species are Elmabaş Patka (*Aythya ferina*) and Little Clumsy (*Anser erythropus*). Currently, the facilities will not have a major impact on the birds.

1.5.4 Hydrobiology

In the study conducted at Kızıldere II-III GPP facilities, no algae, zooplankton, benthic aquatic organisms or fish were found. However, it has been determined that there is seasonal flow in the stream beds within the facility. These flows generally occur in the spring and rain from the rain later occurred for rains when it's over It is drying. This for this reason any An aquatic creature cannot show signs of life.

The underground water temperature used in the environment is around 100 ^{o}C. There are no species that can be considered important in terms of biodiversity in underground geothermal water. However, in case of any possible negativity This hot water, which will mix with nature (necessary precautions have been taken against all kinds of negativities in the facility), may harm other living things around it.

1.5.5 Environmental Risk Analysis

The project is not likely to adversely affect human health or the environment, directly or indirectly. Environmental Risk It is called. Estimating the magnitude of risk in all its activities and Deciding whether the risk can be tolerated is called **Risk Assessment** .

Environmental Risk Assessment, Appropriate methods are used to identify environmental hazards in the working environment, reveal risks and control risks through systematic methods. qualitative and/or It is a set of studies conducted using quantitative methods.

In order to determine the environmental impacts that are likely to occur in the periods determined within the scope of the environmental management and monitoring plan and to minimize the impacts of the project by collecting the relevant data and comparing the compliance of the studies carried out with the legislation ;

- of the business management,
- wastes ,
- weather emissions,
- noisy ,
- wastewater , like effects will be monitored.

A Waste Management Plan must be prepared for the wastes generated and likely to be generated within the scope of the project, and it is necessary to continue to act in accordance with the issues specified in the waste plan and the applicable legislation at all stages of the project. Waste Management that should be implemented within the scope of the project is given in Table 3 .

Table 3 Implementation Required Waste Management

STAGE	SUBJECT		PRECAUTION
BUILDING AND BUSINESS PHASE	**Noisy And Vibration**		During the operation phase of the project, noise generation will arise from vehicles. However, still operating owner by activity any One negative of the effect absence for the purpose of All necessary security measures must be taken and any complaints or suggestions from nearby settlements must be taken into consideration and necessary action must be taken by the activity owner.
	Weather emissions	**Vehicle Welding**	The vehicles used in the project area were published in the Official Gazette dated 03.2017 and numbered 30004. into force entering "Exhaust gas emission Control Regulation with Gasoline And Diesel quality "Regulation" to the provisions to be complied with is required.
	Waste Management	**domestic Qualified Thick Wastes**	Project in the scope of formed domestic qualified thick wastes smell, insect And negative to the effects It must be collected in sealed containers. domestic qualified thick of waste management for 02.04.2015 history And 29314 numbered Official Newspaper' It is necessary to comply with the provisions of the "Waste Management Regulation", which was published and entered into force . Back gain possible non- organic origin domestic qualified thick wastes whereas mouth It should be collected in closed domestic waste bins and delivered to the relevant Municipality. Recyclable wastes (glass, paper/cardboard, metal, etc.) must be collected separately from other wastes, deposited in containers, and recycled by companies licensed by the Ministry of Environment, Urbanization and Climate Change. Regarding the issue dated 26.06.2021 and 31523 numbered Official Newspaper' also by publishing into force entering PACKAGING of waste The provisions of the Control Regulation must be complied with. of waste is accumulated containers continually aspect closed by keeping rodent animal And Pest prevention must be ensured.
		PACKAGING waste	
		domestic Qualified Waste water	Business in the phase formed wastewater in the scope of 31.12.2004 History And 25687 Numbered In the Official Gazette by publishing into force entering "This pollution Control "Regulation" provisions must be complied with. Business during This pollution Control Regulation, Drinking-Use juice The provisions of the Regulation on the Protection of Basins must be complied with. of the project all in stages 23.12.1960 date and 10688 numbered Official Newspaper' also published "Law on Groundwater No. 167" and "On the Protection of Groundwater Against Pollution and Deterioration" published in the Official Gazette No. 28257 dated 07.04.2012 Regulation" to the provisions respect to be is required.

STAGE	SUBJECT		PRECAUTION
		Waste Battery And Accumulators	process in the scope of formed waste battery And accumulators in the scope of, Waste BatteryAnd In accordance with Article 13 of the Accumulator Control Regulation; By collecting waste batteries separately from household waste, businesses that distribute and sell battery products or by municipalities will be created collection to the points waste batteries delivery After becoming waste, the resulting cells, accumulators and/or accumulators used in transformers should not be kept on a sealed surface within the site for more than ninety days until they are delivered to the manufacturer.31.08.2004 history And 25569 numbered Official in the newspaper by publishing into force entering "Waste Battery It is necessary to ensure that waste is disposed of in accordance with the provisions of the "Regulation on the Control of Batteries and Accumulators".
		Medical Wastes	For medical waste generated within the scope of the activity; waste at the source -most member will download system establishmentof waste separate collection, moving And temporary storage with One accident instantly Preparing and complying with an in-unit industrial waste management plan that includes the measures to be taken. Collecting medical, hazardous and domestic wastes and packaging waste separately at the source without mixing with each other,Medical wastes with cutting-piercing waste while collecting technical features In the regulation using specified bags and containers, Separate collected medical And domestic qualified waste Only This work for allocation has been Vehicles with separate transported separatelywaste temporary to store for the purpose of temporary waste warehouse construction will be or It is required to have a container, Legislation to the provisions to be complied with is required.
		Waste Electronic Things	It is possible that electronic waste will be generated during the process. The electronic waste generated is temporary waste storage on the forehead by accumulating licensed disposal/return earnings to the company must be given. Compliance with the provisions of the Regulation on the Control of Waste Electrical and Electronic Equipment, which came into force after being published in the Official Gazette dated 22.05.2012 and numbered 28300.to be is required.
		Waste oils	Within the scope of waste oils generated at all stages of the project, the "Waste Oils Management Regulation", which came into force after being published in the Official Gazette dated 21.12.2019 and numbered 30985, and the "Waste Management Regulation", which came into force after being published in the Official Gazette dated 02.04.2015 and numbered 29314. "Regulation" to the provisions respect to be is required. Formed waste oils Temporary

STAGE	SUBJECT		PRECAUTION
			It is stored in the Waste Storage Area and collected by the Ministry of Environment, Urbanization and Climate Change. licence given by companies back gain and/or disposal ensuring is required
		Waste Vegetable Waste oils	of the project vegetable waste oil formation in case 06.06.2015 history And 29378 numbered Official It is necessary to comply with the relevant provisions of the "Regulation on the Control of Waste Vegetable Oils", which came into force after being published in the Gazette .
		of your life Completed Tires	Any One for this reason promise subject of waste welding in case your life expired tires, dated 25.2006 and numbered 26357 "Control of End-of-Life Tires" Regulation") to the provisions respect to be is required.
		Dangerous Wastes	In case of fluorescent lamps used in lighting, printing toners from printers used in the administrative building, contaminated waste and other hazardous wastes at any stage of the process, they will be stored in the Temporary Waste Storage Area in accordance with waste codes. Environment urbanism And Climate change ministry by licence given by companies back gain and/or disposal ensuring is required
		Oily Mud mud	of the process any One in the phase or equipment care from his work caused Oily sludges must be sent to licensed companies and disposed of.

The relevant applications within the scope of the Regulation on Amendments to the Zero Waste Regulation of the facility have been completed and it has a zero waste certificate. Waste Management Regulation of the Facility in the scope of prepared Industrial Waste Management plan is available is, It has been determined that it has been approved by the Provincial Directorate of Environment, Urbanization and Climate Change. It has been determined that the packaging waste generated in the facility is separated on site in accordance with its codes and is regularly stored in the Temporary Waste Storage Area. The stored waste is recycled through licensed companies.

At the facility, care should be taken to store waste scrap materials on concrete floors rather than soil.

It has been observed that the business is subject to Environmental Permits on Air Emission and Wastewater Discharge within the Scope of the Environmental Permit and License Regulation, but it has been determined that it does not have an environmental permit .

Domestic wastewater generated within the scope of the project is subjected to package treatment and discharged to the receiving environment. In this context, within the scope of domestic wastewater generated during the operation phase, the provisions of the "Water Pollution Control Regulation", which came into force after being published in the Official Gazette No. 25687 dated 31.12.2004, must be complied with. An analysis must be made by accredited companies by applying to the MELBES system of the Ministry of Environment, Urbanization and Climate Change at the package treatment outlet. In addition, the provisions of the Water Pollution Control Regulation and the Regulation on the Protection of Drinking and Domestic Water Basins must be complied with during the operation.

Emission measurements of the chimneys in the facility must be made regularly by accredited companies by applying to the MELBES system of the Ministry of Environment, Urbanization and Climate Change, within the scope of the provisions and principles specified in the Regulation on Control of Industrial Air Pollution.

This in scope urgent way Environment permission transactions It needs to be done .

1.6 Social Responsibility Suggestions

Social responsibility projects are the expression of the investor company's sensitivity to biodiversity. Starting from this point, cultivating the endemic bulbous plants in Denizli province, which are our most important resource values, will be one of the good examples of these sensitivities (Table 4)

Table 4 Kızıldere-II-III JES facility For Denizli in the province Sensitive And Rare endemic Bulbous Plant Suggestions

Herb taxon	English Name	Blooming	habitat
Allium sibthorpianum	Fowl Onion	8- 9	calcareous Rock cracks, Cliff slopes , Cagilli Mountain pastures
Allium deciduum subsp. deciduum	Bald Onion	7- 8	Dry Rock Slopes , Stony Fields
Allium stylosum	Dillisogan	5-6	Pine and Juniper Forests, Calcareous Shrubs, Cultivated Area , Calling , Step
Ornithogalum alpigenum	Alpine Star of Bethlehem	4- 7	hills, steppes, Forest
Muscari muscarimi	Fragrant Grape Hyacinth	5-6	calling And Step And slopes
Muscari mirum	Dirmil Grape Hyacinth	5-6	Naked Rocky slopes, serpentine Rocks
Muscari aucheri	Blue Grape Hyacinth	4- 6	Rocky Slope, calcareous Calling , Mountain pastures, This puddles
Hyacinthella lineata	Mountain Hyacinth	3- 5	Oak bushes , Pine bottoms, Sandy And Rocky Overgrazed Slope
Fritillaria crassifolia subsp. crassifolia	Thick-leaved Fritillary	5-6	calcareous calling
Colchicum micaceum	Babamakhrut	8- 9	Sandy Or Rocky Mountain slopes, Snowy Places
Iris purpureobractea	Purple Bract Iris	4- 5	Cliff Places, Sometimes Cedar Or Pine forests

Crocus baytopiorum	Lady Crocus	2- 4	calcareous Callings
crocus flavus subsp . *dissectus*	Dilikçiğdem	3-4	grove, Bushes And lawns
Epipactis tremolsii subsp .	Turkbindallısı	5- 7	Dry Grassland, Pine Forest

Herb taxon	**English Name**	**Blooming**	**habitat**
turcica			clarity, Frigana , Oak bush

, the medicinal and aromatic plants mentioned in Table 5 , which have economic value, can be produced in a 50 m ^{2} polyethylene greenhouse (turned from seed to seedling) to be established within the facility site, and a medicinal and aromatic plant garden can be established in the fields of the local people. This action, which has economic returns, will also be an approach compatible with the understanding of sustainable biodiversity . This area can be improved by adding species every year.

Table 5 Production can be done Medical And Aromatic plants

Herb taxon	**English Name**
Salvia officinalis	Common Sage
Echinacea purpurea	Purple Coneflower
Echinacea angustifolia	Narrow-leaved Coneflower
Origanum onites	Izmir Oregano
Thymus vulgaris	Common Thyme
Mentha piperita	Peppermint
Achillea millefolium	Yarrow
Calendula officinalis	Pot Marigold
Melissa officinalis	Lemon Balm
Lavandula angustifolia	Lavender
Rosmarinus officinalis	Rosemary
Hypericum perforatum	St John's Wort
Urtica dioica	Stinging Nettle
Helichrysum sp.	Everlasting Flower

Moreover; During April and October, local people can be trained on what can be done to spread hot water around.

1.7 biodiversity Action plan

Kızıldere- Ii - III jess facility biodiversity Action plan							
Action Code	**Habitat Class**	**Action Subject**	**Action Zone**	**Action Rationale**	**Action/Application Details**	**Action Period**	**Action Duration**
KZD1	Business	Fauna Conservation of Species	Project Area And surroundings	Tortoise (*Testudo* Facility Employees Should Be Provided Training About *Graeca) Species.* Pay Attention to Certain Points of the Project Area Tortoise may come out signs It must be placed.	Biologists who are experts on the subject Training Should Be Provided by	During Operation	April-May 2024 one Times
KZD2	Business	Fauna Conservation of Species	Project Area And surroundings	Tortoise (*Testudo* Facility Employees Should Be Provided Training About *Graeca) Species.* Pay Attention to Certain Points of the Project Area Tortoise may come out signs It must be placed.	Biologists who are experts on the subject Training Should Be Provided by	During Operation	April-May 2024 one Times
KZD3	Business	Fauna Conservation of Species	Project Area And surroundings	tortoises and other animals from being crushed by vehicles while crossing the roads, vehicle speeds should be limited to 30 km/h within the facility. With Limitation, Transition your priority Each Time to Give to Animals It is necessary.	Company By	During Operation	Continually

KZD4	Business	Fauna Conservation of Species	Project Area And surroundings	Pet Cats Should Never Be Keeped in the Facility. Although it is recommended not to have a pet dog, Even Especially at Night Free to their wanderings Permission should not be given	Company By	During Operation	April-May 2024

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Action Code	**Habitat Class**	**Action Subject**	**Action Zone**	**Action Rationale**	**Action/Application Details**	**Action Period**	**Action Duration**
KZD5	All Habitats	Invader Blocking Species	Project Area And surroundings	Investigation of Invasive Species Found in the Project Area and Surroundings Project Area And Around by watching dismantling of your plan Must be prepared	Population by Expert Biologists Level Monitoring	During Operation	one Year Duration in July and August
KZD6	Business	Prevention of Environmental Pollution	Project Area	Licensed in accordance with the Waste Codes for Hazardous Wastes Generated within the Business Companies Delivery to Recycling / Disposal Facilities by It should be done.	Company By	During Operation	6 on the moon one
KZD7	Business	Prevention of Environmental Pollution	Project Area	Licensed in accordance with the Waste Codes for Non-Hazardous Wastes Generated within the Business Companies Recycling /Disposal by to its facilities Must be Delivered .	Company By	During Operation	per year one
KZD8	Business	Prevention of Environmental Pollution	Project Area	Business Environmental Permit and License Regulation Themed Environment permissions receiving	Company By/Environmental Officer/Environmental Consultancy Firm	During Operation	2022 December

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Action Code	**Habitat Class**	**Action Subject**	**Action Zone**	**Action Rationale**	**Action/Application Details**	**Action Period**	**Action Duration**
KZD9	Business	Prevention of Environmental Pollution	Project Area	and Principles Specified in the Regulation on the Control of Industrial Air Pollution from the Chimneys in the Facility Environment, Companies Accredited by Application from the Ministry of Urbanization and Climate Change, Melbes System By Emission Measurements Organised in the figure to be done It is necessary.	Company By/Environmental Officer/Environmental Consultancy Firm	During Operation	2 per year one
KZD10	Business	Prevention of Environmental Pollution	Project Area	and Climate Change from Package Treatment Output within the Scope of Domestic Wastewater ministry, Analysis by Accredited Companies by Applying to the Melbes System Getting it done It is necessary.	Company By/Environmental Officer/Environmental Consultancy Firm	During Operation	4 on the moon one

PROJECT TEAM

Name- Surname /Title	In Report/Study Department He is Assigned to	Sign ature
Specialist Biologist Tariq BATUHAN	Project And Report Coordination Ecological Assessment	
Prof. Dr. Mustafa SÖZEN	Fauna Evaluation	
Prof. Dr. Tahir SHOOTER	hydrobiological Evaluation	
Dr. Lecturer Member of Karim SOUTH	Flora And Vegetation Evaluation	
Kaan ÖZGENCİL	Ornithological Evaluation And GIS Studies	
Biologist Mehmet Ali YUKSEL	Ecological Studies And Land Coordination	

Experienced Bird Observer ***Ayhan BATUHAN***	Bird observation	