

TERCAN DAM AND HEPP FACILITY BIODIVERSITY ACTION PLAN

1.1 Entrance

Operated by Zorlu Dođal Elektrik Üretimi A.Ş., the Tercan Dam and Hydroelectric Power Plant (HEPP) is located within the borders of Tercan district in Erzincan Province, Eastern Anatolia Region. It is situated on the Tuzla Stream, a left-bank tributary of the Karasu Stream which is an upper segment of the Euphrates River, at the thalweg elevation of 1,410.00 m. The dam and power plant project is mapped on the 1/25,000 scale topographic maps İ44-b3 and İ44-c2 of Erzincan, covering Tuzla Stream (Euphrates Basin). The Tercan Hydroelectric Power Plant (HEPP) at Tuzla Stream has a thalweg at 1,410.00 m and a crest at 1,470.00 m, with a zoned earth-fill structure holding a normal water level lake volume of 178 hm³ and a lake area of 8.9 km². The waters carried from Tercan Dam Lake to the power plant through a submerged, concrete-coated, 4.0 m diameter steel pipe are initially diverted to Tercan Irrigation, owned by the DSI 8th Regional Directorate and benefiting from the dam. The water from the energy tunnel is split into four via a pant-type force pipe (three units of 1.75 m diameter and one unit of 1.10 m diameter steel pipes) and directed to the turbines. The plant houses three turbines generating 51 GWh of energy at a power output of 3 x 5.00 MWe (15 MWe). The Tercan HEPP building currently accommodates three vertical-axis turbine generator units and a bottom outlet valve chamber. The turbine capacity is 15 MWe.

The area within the project's boundaries, Erzincan province, is surrounded by the Munzur Mountains to the southwest and Refahiye Mountains to the northwest. Karasu River, flowing from east from Erzurum and extending westwards, deeply divides the province, leaving wide plains in between. Coşan Mountain is the highest point in the province at 3,976 m. Approximately 60% of the province's terrain is mountainous.

The Kop Mountains, which border the Tercan Plains to the north, form a steep and orderly range that joins with the Gavur Mountains to the north of Erzincan. At an elevation of 2,400 m on the Kop Mountains, the Alevi Pass connects Tercan to Bayburt. To the west of this basin lie the Mülpet and Keşiş Mountains (Esence Mountains). The Kop Mountains split into two branches west of the Çayırılı region: the first extending towards the north of Erzincan city center and the second turning southeast, forming first the Keşiş and then the Mülpet Mountains.

In Erzincan province, plains are located in the depression areas between the mountain ranges extending in the east-west and north-south directions. The plains are connected to each other by gorges. The Erzincan Plain is surrounded by the Otlukbeli Mountains to the northwest and the Esence Mountains to the north. Among these, the Otlukbeli Mountains form the watershed line that separates the catchment basin of the Yeşil River from the Euphrates (Karasu) basin. The Esence Mountains form the watershed line between the Çayırlı Plain and the Erzincan Plain.

The Erzincan Plain is surrounded to the west by Karadağ (Köhnem Mountain, 3,045 m) and to the south by the Mercan Mountains, which form the northeastern part of the Munzur Mountains. The Mercan Mountains form the watershed line between the Karasu-Aras mountain range's western section and the Munzur River - Pülümür Stream, which are tributaries of the Euphrates in the north and the Murat River in the south.

As mentioned above, the Erzincan Plain has an average elevation of 1,200 meters, situated between the surrounding mountains. There are elevation differences of up to 2,250 meters between the plain and the mountains to the south, and up to 2,350 meters between the plain and the mountains to the north.

The Erzincan Plain, excluding the surrounding mountainous areas, is lower than the Tercan Plain (1,400-1,450 m) to the east, the Refahiye Plain (1,600 m) to the west, and the Kelkit (1,450 m) and Bayburt (1,600 m) plateaus to the north, and it has almost the same elevation as the Pülümür and Ovacık (1,000-1,200 m) valleys to the south. The plain, which has an oval basin appearance, extends approximately 55 km in a southeast-northwest direction, and the surrounding mountains rise suddenly.

The Keşiş-Esence Mountains surrounding the Erzincan Plain from the north and west and the Munzur Mountains surrounding it from the south have completely different characteristics in terms of both topographic features and lithological structures. Despite being located in a northern geographical section of Eastern Anatolia, in the Upper Euphrates section, the Erzincan Plain has a relatively high annual average temperature. If we accept the average elevation of the plain as 1,200 meters, there is an elevation difference of 2,200 – 2,300 meters between the plain and the surrounding mountains (Esence Mountains, 3,537 m; Munzur Mountains, 3,462 m).

This elevation difference ensures that the plain is in a sheltered position compared to its surroundings. There is an east-west running fault line in the north. Irrigated agriculture is practiced on the plain, which is covered with a thick layer of alluvium. The plain area, which also includes the Erzincan Plain and the surrounding mountainous belt, has an area of approximately 1,628.52 hectares, with a high percentage of 54.7% (89,094 ha) consisting of pasture areas (1,276 ha of meadows). This is followed by 38.7% (62,950 ha) of agricultural lands, 3.7% (6,028 ha) of rocky-sandy and swampy areas, 0.9% (1,454 ha) of forest areas, and 2% (3,326 ha) of residential areas (including cities). The area is of medium productivity and grows wheat, sugar beet, and beans. The many plains on both sides of the Euphrates Valley up to the Sansa Strait form the Tercan Plains. The largest is the Çadırkaya (Pekeriç) Plain, with an area of 180 km². This plain, which is 1,450-1,500 m above sea level, is covered with a thick alluvial layer. One-twentieth of the total area is covered by plateaus.

The plateaus on the extensions of the Munzur Mountains in the south, especially in the Koşan Mountain region, are covered with sparse and short grass. There are oak groves in places. Further east, on the Erzurum-Erzincan-Bingöl border, there are fertile plateaus on the extensions of the Cemal Mountains in Erzincan. Among the important ones, Çimen, Melan, and Sarıçiçek plateaus have rich vegetation. The largest and most important river in the province is the Euphrates River. The Euphrates is used for irrigation, energy, and water sports purposes with its flow rate varying between 43.8 m³/s and 1,320 m³/s. In the Tercan Plains, the Çayırılık Stream originating from the Keşiş Mountains in the northwest and the Tuzla Stream in the southeast join the Euphrates.

Starting from where the waters meet in the Tercan Plain, the largest tributary of the Euphrates is called Karasu. In the Erzincan Plain, the Euphrates River receives the Mercan, Kom, Cimin, Pahnik, and Sürperen waters and the Çardaklı Stream from both sides. After the Erzincan Plain, the river flows in a deep bed until Bağıştaş. After receiving the Kadıgölü water and Miran water in the Kemaliye district, the Euphrates enters the Elazığ provincial border near Başpınar in the southeast of the district.

Approximate distances to nearby villages from the project site are: Daritepe Village about 0.4 km, Elaldı Village 0.4 km, Kuzuören Village 0.7 km, Dalıca Village 2.0 km, Kızılca Village 0.6 km, Yavuz Selim Village 1 km, Tercan Village 1.9 km, Müftüoğlu Village 0.7 km, Fındıklı Village 2.3

km, Yaylacık Village 2.9 km, Tepebaşı Village 2.7 km, Güzbudak Village 5.8 km, Küllüce Village 6.2 km, Gökpınar Village 7.7 km, Kalecik Village 9.1 km, Ovacık Village 10.3 km, Tokça Village 10.3 km, Koçbaba Village 9.3 km, Yalınkaş Village 4.9 km, Yaylayolu Village 4.3 km, Yumruveren 21.9 km, Göktaş Village 6.2 km, Gedikdere Village 8.2 km, Sağlıca Village 7.5 km, Armutluk Village 14 km, Yenibucak Village 13.9 km, Sarıkaya Village 8.0 km, Kurukol Village 8.0 km, Beşkaya Village 4.6 km, Gevenlik Village 6.9 km, Topalhasan Village 5.3 km, Aktaş Village 6.0 km, Karacaören Village 3.9 km, Hacıbayram Village 6.5 km, Edebük Village 14.8 km, Mercan Village 11 km, Gökçe Village 13.3 km, Haydarhacı Village 19.6 km, Tuzluca Village 17.2 km, Hacıbekir Village 12.9 km, Eyüpoğlu Village 14.9 km, Mustafabey Village 10.2 km, and Esenevler Village 6.9 km. (Figure 3-6).

There are important water bodies around the project site that will attract birds. (Figure 7-8).



Figure 2: Satellite Image of Tercan HES Project Area

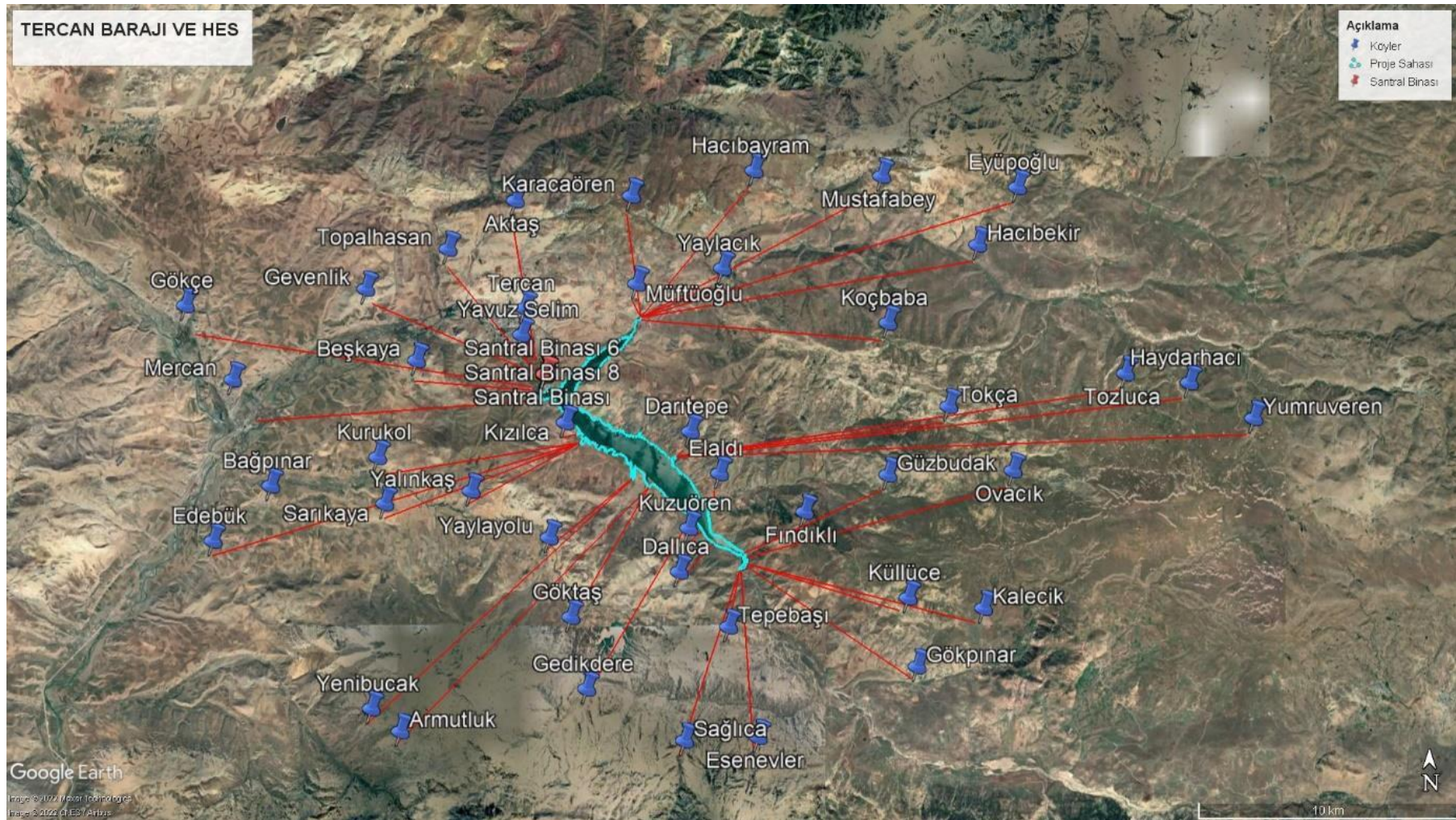


Figure 3: Village (Neighborhood) Settlements Near the Project Area

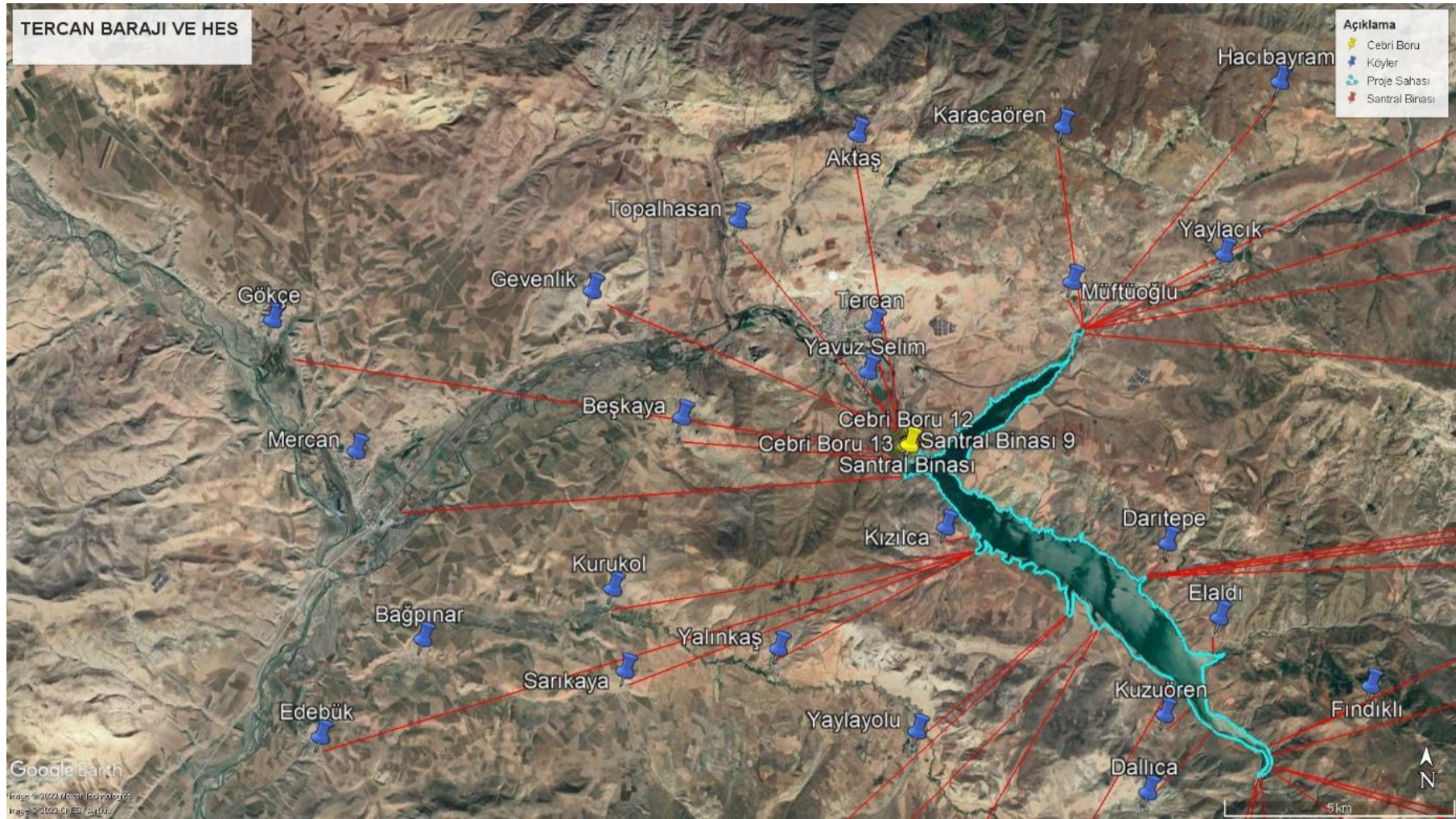


Figure 4: Village (Neighborhood) Settlements Near the Project Area

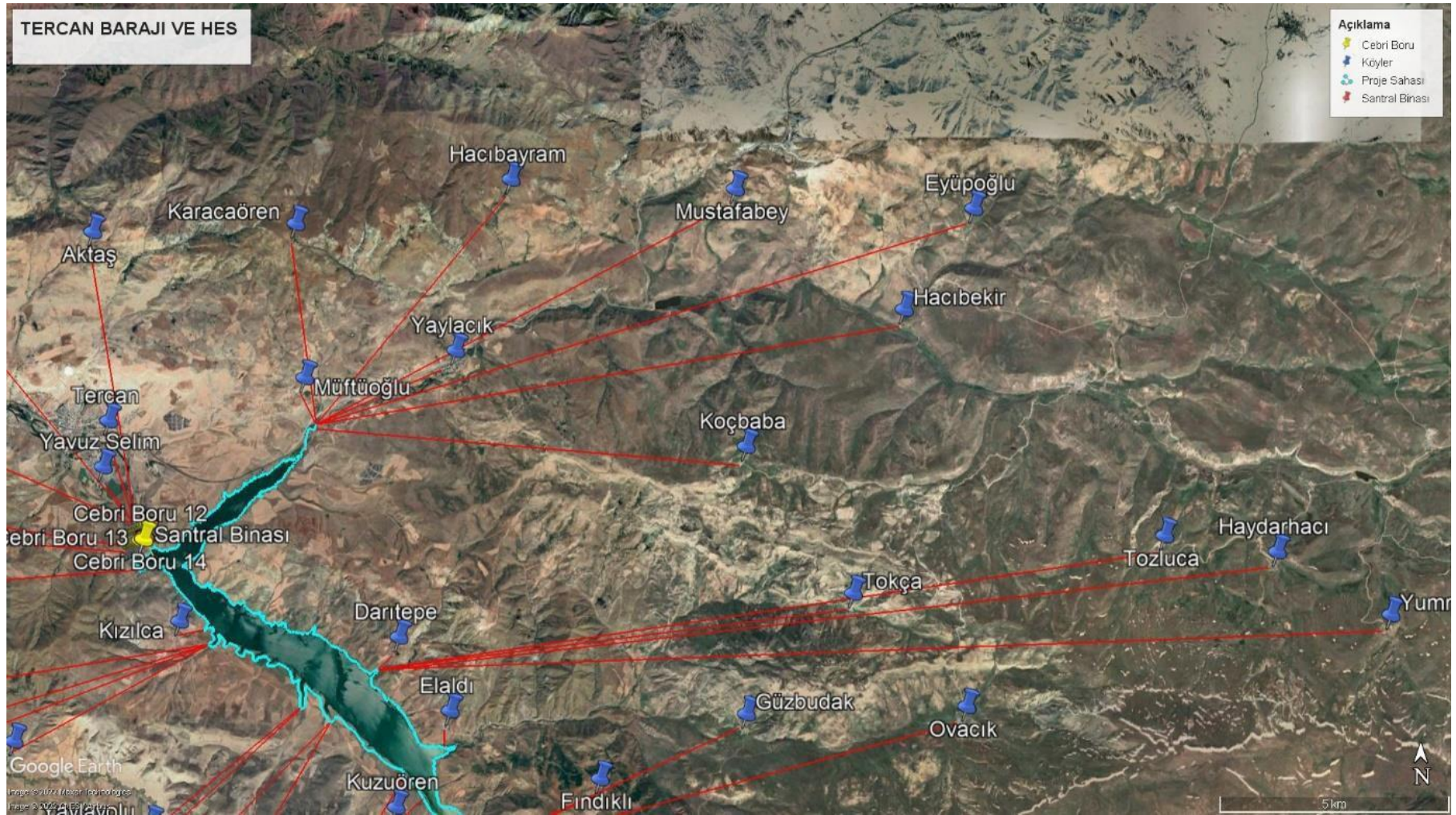


Figure 5: Village (Neighborhood) Settlements Near the Project Area

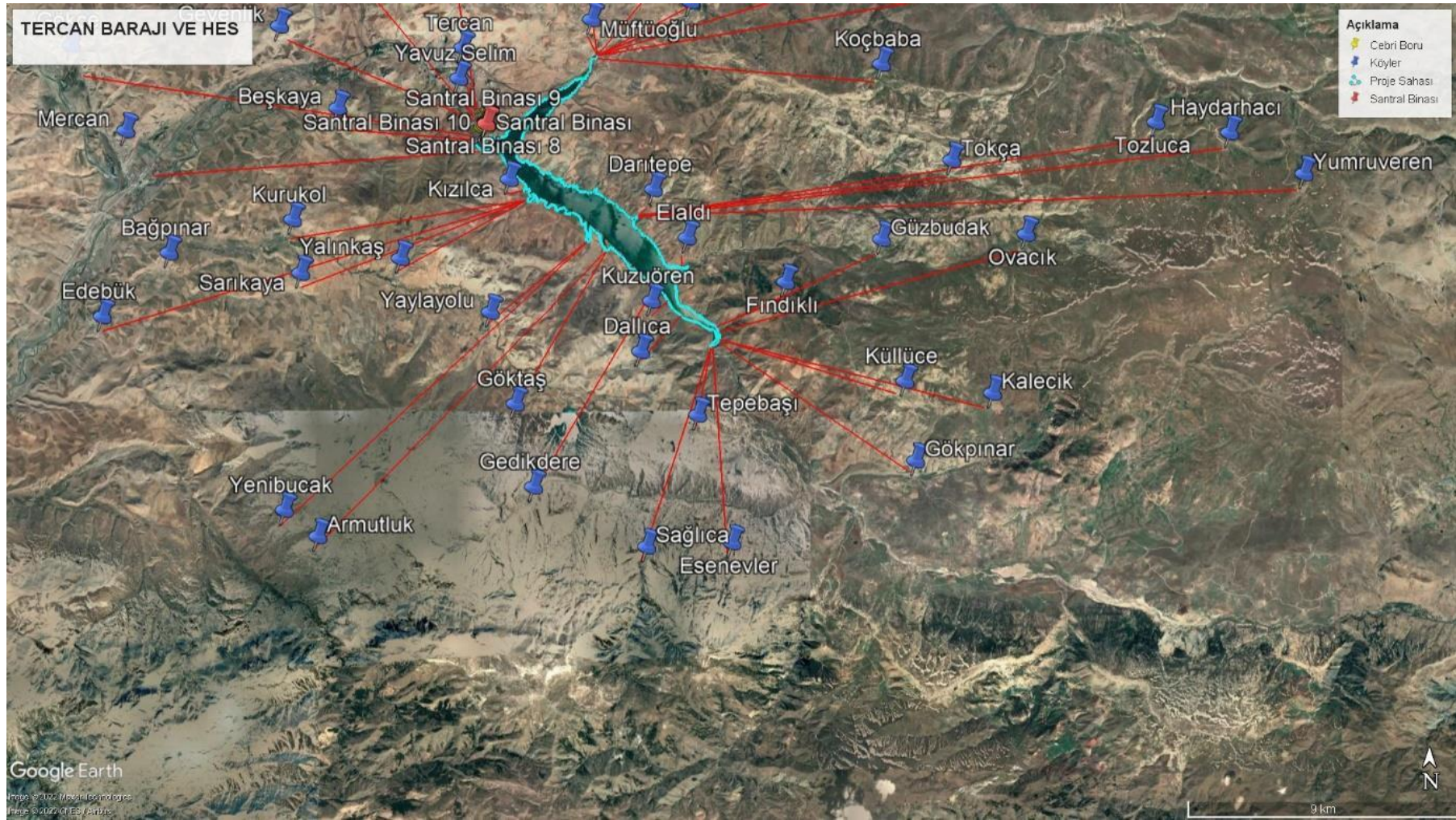


Figure 6: Village (Neighborhood) Settlements Near the Project Area

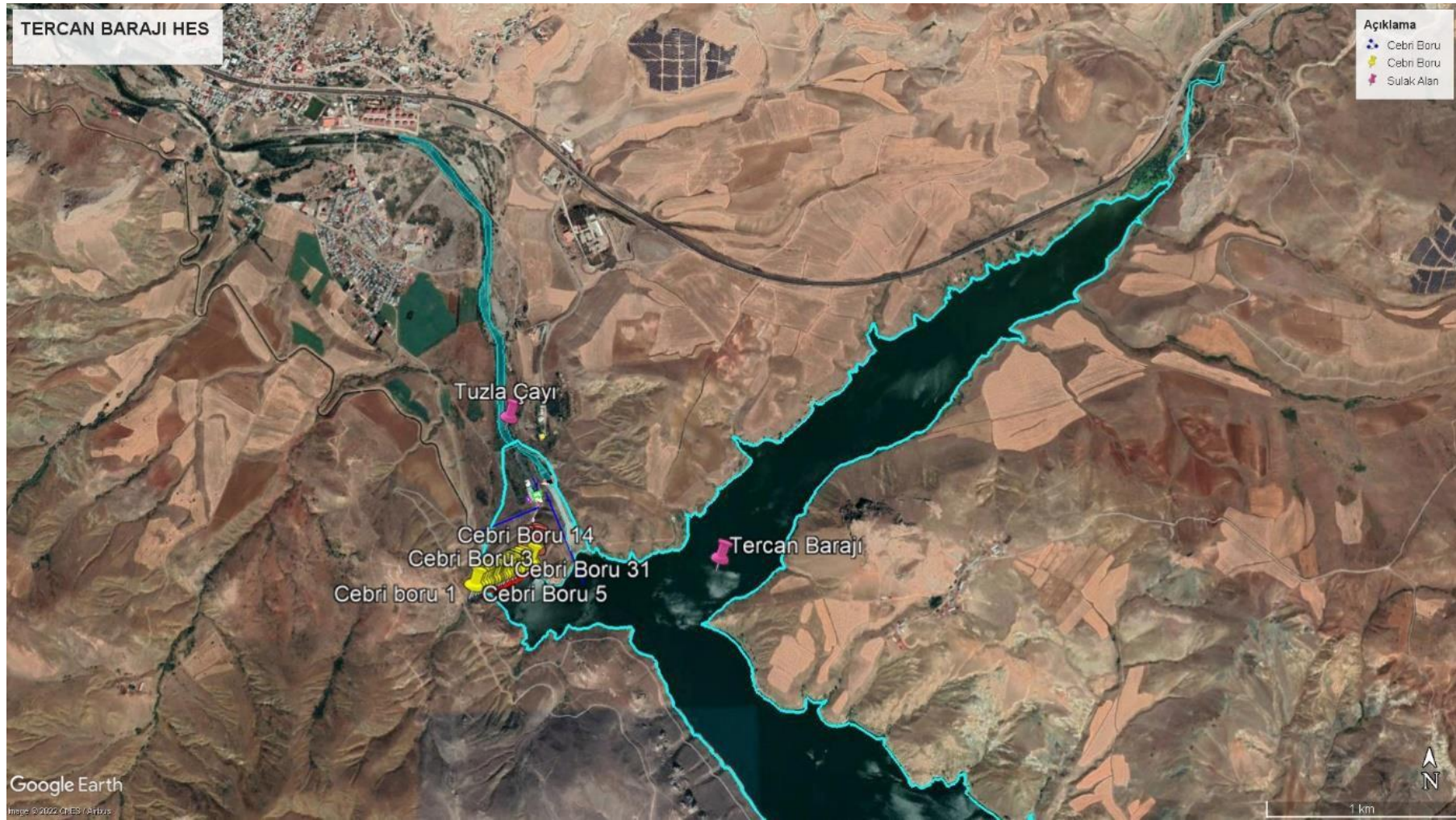


Figure 7: Significant Water Bodies Around the Project Area

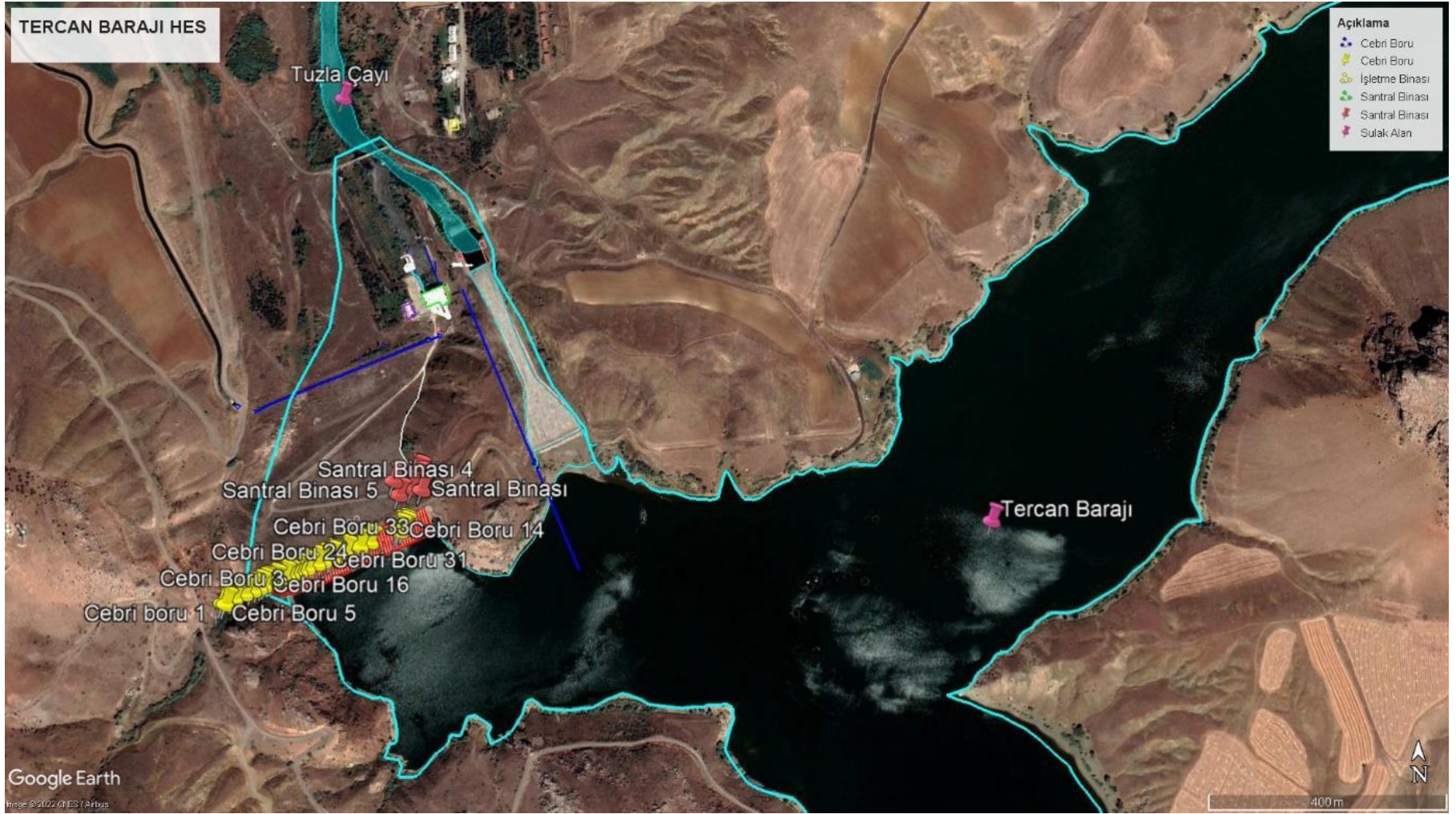


Figure 8: Significant Water Bodies Around the Project Area

1.2 Relationship of the Area with Protected and Special Status Areas

Considering the location of the Tercan Dam HES site, the surrounding protected areas, and important natural areas; Kop Mountain TMP is 23 km away, Erzurum ÇAT approximately 16.9 km away, and Bingöl Kığı Şeytandağları 26.5 km away from the project site by air. Furthermore, the Esence (Kesis) Mountains KBA is 12 km away, and Kop Mountains KBA is also 12 km away as the crow flies (Figure 9-10).

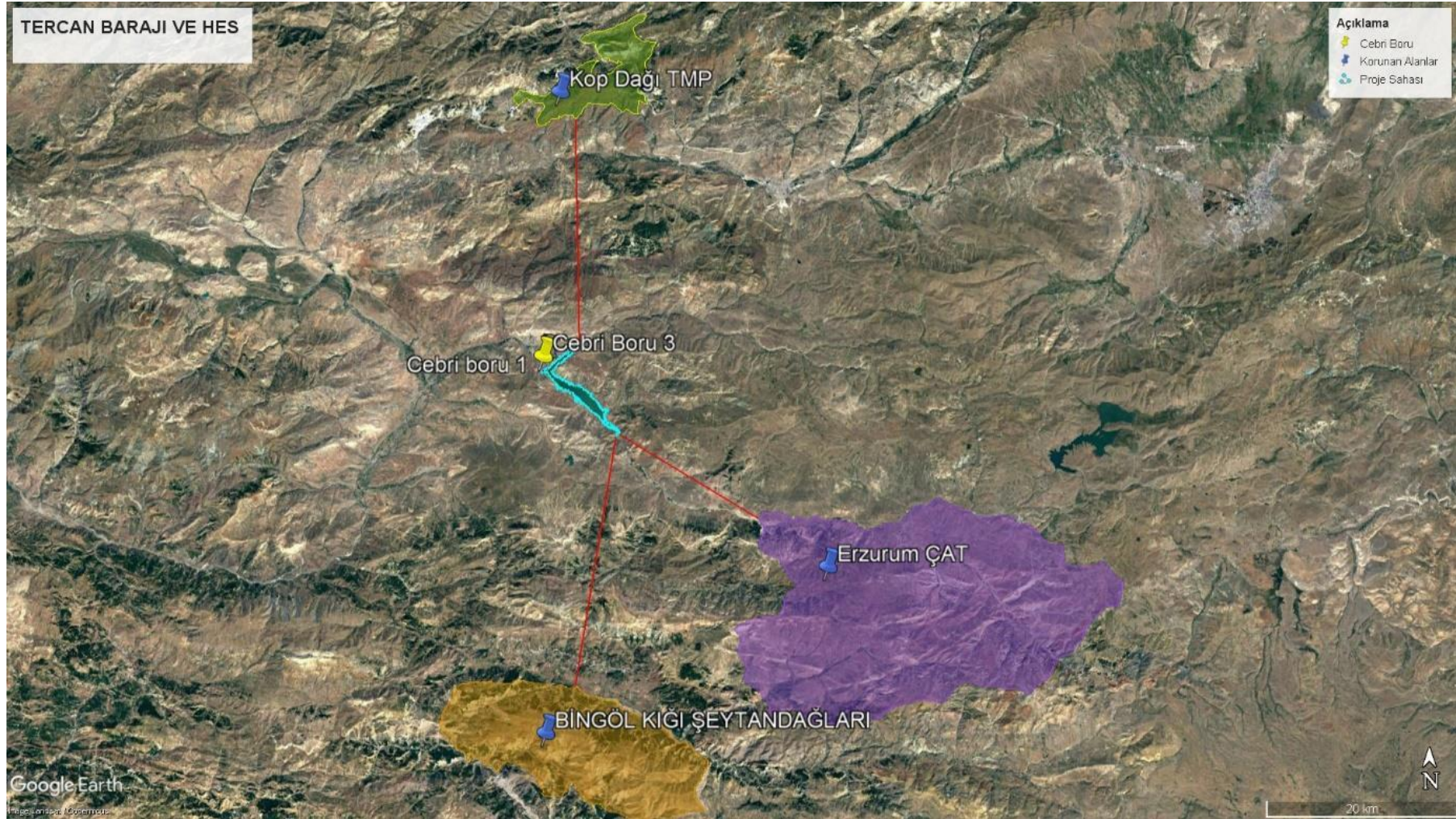


Figure 9: Satellite Image Showing the Relationship Between the Project Area and Protected Areas

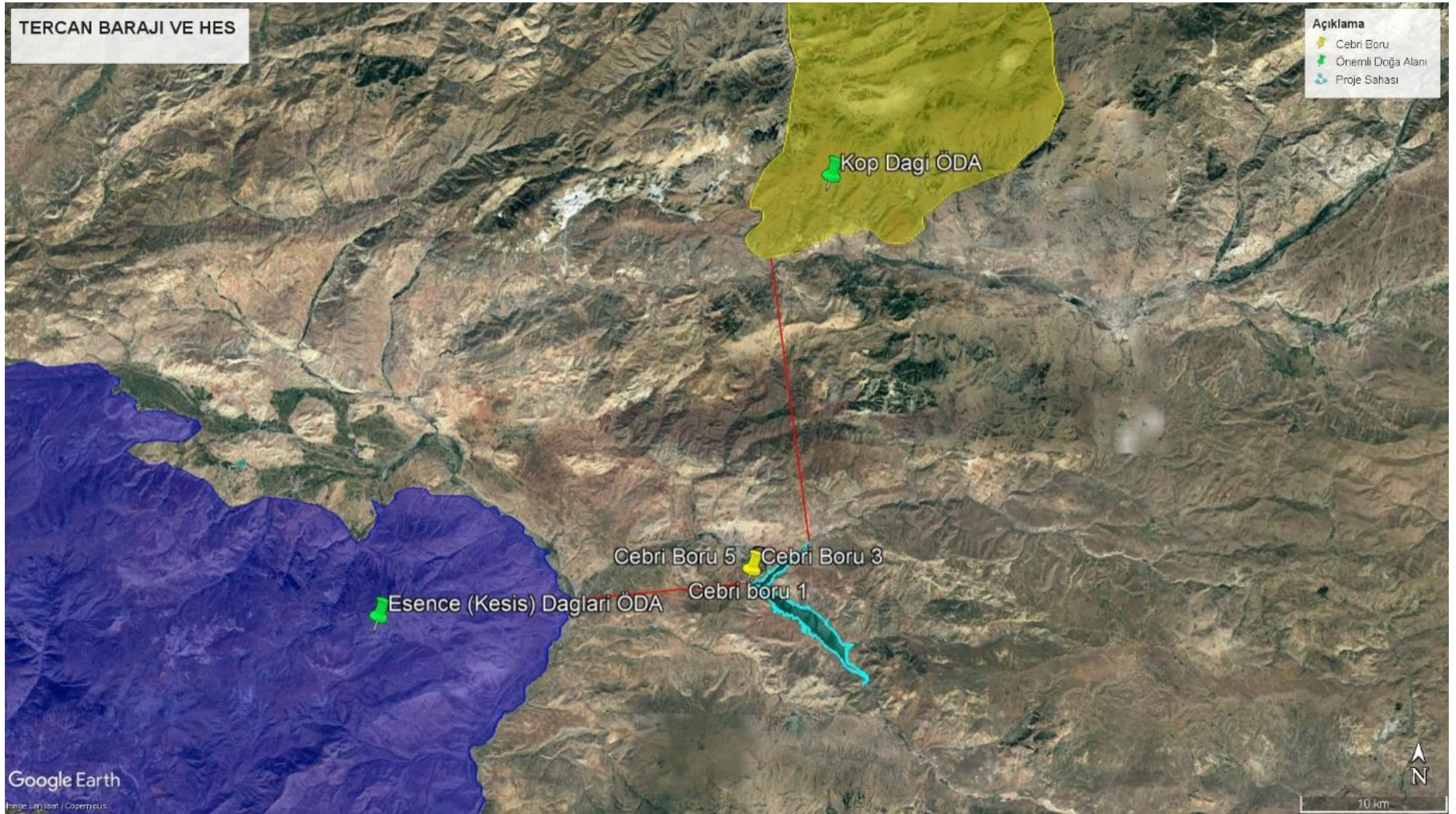


Figure 10: Satellite Image Showing the Relationship Between the Project Area and Protected Areas

1.3 Definition and Classification of Habitats in the Impact Area of Tercan Dam and HEPP Facility

Operated by Zorlu Doğal Elektrik Üretimi A.Ş., the Tercan Dam and Hydroelectric Power Plant (HEPP) in Eastern Anatolia Region, within the borders of Tercan district, Erzincan province, was built on the Tuzla Stream, a left-bank tributary of the Karasu Stream which is the upper part of the Euphrates River, at the 1,410.00 m thalweg elevation. The project operates on Tuzla Stream (Euphrates Basin) and is mapped on the 1/25,000 scale topographic map sheets İ44-b3 and İ44-c2 titled “Tercan Dam and Hydroelectric Power Plant (HEPP)”.

The project area contains 11 different habitat types. Of these habitats, six are natural, one is semi-natural, and four carry modified habitat characteristics. The 1st, 2nd, and 3rd level codes and vegetation types of the developing vegetation in natural areas according to the EUNIS Habitat Classification are presented below (Figure 11).

Tercan HES EUNIS Habitat Haritası

Ölçek: 1:12,000



- ** Tesis binaları
- * C1.2: Kalıcı mezotrofik göller, göletler ve rezervuarlar
- * C2.2: Mevsimsel olmayan, hızlı akan akarsular
- * G1: Yaprak döken ormanlar
- * G4: Karışık ormanlar
- * G5: Antropojenik ormanlar, baltalıklar, ağaç hatları
- * H3: Sarp yamaçlar, ana kayanın yüzeye çıktığı taşlık alanlar
- * H5: Bitki örtüsü seyrek açıklık alanlar
- ** J2.3: Kırsaldaki aktif kullanılan endüstriyel yapılar
- ** J4.2: Yol ağları
- ** J4.6: Kaldırımlar, beton yüzeyler, rekreasyon alanları
- ** J5.41: İnsan yapımı tatlı su kanalları



0 250 500
Meters

Figure 11: EUNIS Habitat Map of Tercan HES

Natural Habitats

C1.2 Permanent Mesotrophic Lakes, Ponds, and Reservoirs

The pond at Tercan, created by human influence at an altitude of 1450 m, exhibits fluctuations due to variability in the annual precipitation balance. For this reason, a stable vegetation structure does not form on the lakeshore. However, there is vegetation consisting of hydrophilic plants shaped according to the water mirror. These include **Camphorosma monspeliaca subspecies lessingii**, **Sophora alopecuroides variety alopecuroides**, **Epilobium parviflorum**, **Hippuris vulgaris**, **Oenanthe silaifolia**, **Leonurus glaucescens**, **Plantago maritima**, **Alisma lanceolatum**, **Typha laxmannii**, **Juncus heldreichianus subspecies orientalis**, **Blysmus compressus**, **Carex paniculata subspecies paniculata**, **Carex panicea**, **Carex hordeistichos**, **Eremopyrum orientale**, and **Sonchus erzincanicus**.



Photos 1: Permanent Mesotrophic Lakes, Ponds, and Reservoirs (EUNIS: C1.2)

C2.2 seasonal Non, Fast Flowing streams

They are plant communities around stream beds that show continuous fluidity at an altitude of 1400 m. These; *Linum catharticum* , *Frangula alnus subspecies pontica* , *Geum rivale* , *Sanguisorba armena* , *Epilobium parviflorum* , *Epilobium gemmascens* , *Parnassia palustris* , *Myrrhoides nodosa* , *Conium maculatum* , *Ligusticum alatum* , *Heracleum antasiaticum* , *Valeriana alliariifolia* , *Vincetoxicum tmoium* , *Teucrium scordium subspecies scordioides* , *Stachys setifera subspecies setifera* , *Stachys spectabilis* , *Nepeta transcaucasica* , *Euphorbia orientalis* , *Galium verum subspecies verum* , *Carex panicea* , *Salix fragilis* , *Populus alba* .



Photos 2: Perennial, Fast-Flowing Rivers (EUNIS: C2.2)

G1 Leaf Deciduous Forests

The dominant components that make up the composition of these forests, distributed at altitudes of 1400 m, are **Quercus robur** subspecies **pedunculiflora**, **Quercus pubescens**, **Quercus infectoria**, **Amygdalus communis**, **Amygdalus orientalis**, **Rosa foetida**, **Crataegus tanacetifolia**, **Crataegus monogyna** subspecies **monogyna**, **Polygonatum orientale**, **Allium paniculatum** subspecies **paniculatum**, **Echinops galaticus**, **Paracaryum strictum**, **Alkanna froedinii**, **Scrophularia ilwensis**, and **Salvia candidissima** subspecies **candidissima**.

G4 Mixed Forests

These are habitats with fragmented rocky and stony areas created by surface flow at an altitude of 1445 m. Plant taxa found in this area include **Nigella oxytpetala**, **Delphinium dasystachyum**, **Ranunculus brachylobus** subspecies **incisilobatus**, **Ranunculus kotschyi**, **Berberis crataegina**, **Papaver dubium** subspecies **laevigatum**, **Brassica elongata**, **Conringia planisiliqua**, **Isatis cappadocica** subspecies **cappadocica**, **Aethionema oppositifolium**, **Aethionema caespitosum**, **Fibigia clypeata**, **Alyssum propinquum**, **Hesperis schischkinii**, **Erysimum smyrnaeum**, **Arenaria kotschyana** subspecies **kotschyana**, **Arenaria acutisepala**, **Silene longipetala**, **Paronychia kurdica** subspecies **montis-munzur**, **Rumex angustifolius** subspecies **macranthus**, **Erodium absinthoides** subspecies **armenum**, **Centranthus longiflorus**, **Astragalus angustifolius** subspecies **pungens**, **Bellevallia crassa**, **Hesperis breviscapa**, **Thymus convolutus**, **Trigonosciadium intermedium**, and **Verbascum leiocarpum**.

H3 Steep Slopes, Rock Outcrops, and Stony Fields

These are habitats with fragmented rocky and stony areas created by surface flow at an altitude of 1445 m. Plant taxa found in this area include ***Nigella oxypetala***, ***Delphinium dasystachyum***, ***Ranunculus brachylobus* subspecies *incisilobatus***, ***Ranunculus kotschyi***, ***Berberis crataegina***, ***Papaver dubium* subspecies *laevigatum***, ***Brassica elongata***, ***Conringia planisiliqua***, ***Isatis cappadocica* subspecies *cappadocica***, ***Aethionema oppositifolium***, ***Aethionema caespitosum***, ***Fibigia clypeata***, ***Alyssum propinquum***, ***Hesperis schischkinii***, ***Erysimum smyrnaeum***, ***Arenaria kotschyana* subspecies *kotschyana***, ***Arenaria acutisepala***, ***Silene longipetala***, ***Paronychia kurdica* subspecies *montis-munzur***, ***Rumex angustifolius* subspecies *macranthus***, ***Erodium absinthoides* subspecies *armenum***, ***Centranthus longiflorus***, ***Astragalus angustifolius* subspecies *pungens***, ***Bellevallia crassa***, ***Hesperis breviscapa***, ***Thymus convolutus***, ***Trigonosciadium intermedium***, and ***Verbascum leiocarpum***.



Photos 3: Rocky Areas Where Bedrock is Exposed (EUNIS: H3)

H5 Herb Cover Rare Openness Fields

At 1500 m altitude, plants distributed in these habitats include **Consolida glandulosa**, **Alyssum stylare**, **Alyssum dasycarpum variety dasycarpum**, **Gypsophila perfoliata variety perfoliata**, **Dianthus calocephalus**, **Silene cappadocica**, **Silene alba**, **Kochia prostrata**, **Erodium ciconium**, **Bunium microcarpum subspecies bourgaei**, **Anthemis tinctoria variety tinctoria**, **Achillea coarctata**, **Artemisia austriaca**, **Gundelia tournefortii variety tournefortii**, **Jurinea aucherana**, **Achillea biebersteinii**, **Centaurea pulchella**, **Convolvulus arvensis**, **Dactylis glomerata**, **Melilotus officinalis**, and **Reseda tomentosa var. glabrata**.



Photos 4: Sparsely Vegetated Open Areas (EUNIS: H5)

Half Natural Habitats

G5. Anthropogenic Coppice Forests

This forest type consists of degraded oak populations with broken cover. The species composition is almost identical to the G1 and G4 habitat codes, and the plant species are similar taxa.

Modified Habitats

Areas with habitat codes **J2.3**, **J4.2**, **J4.6**, and **J5.41** are either concrete or asphalt and lack floral content. However, cleaning the seeds that germinate in the cracks of these structures is important for maintaining system integrity.



Photos 5: Industrial Buildings Actively Used in Rural Areas (EUNIS: J2.3) and Road Networks with Pavements and Recreation Areas (EUNIS: J4.2 and J4.6)



Photos 6: Man-Made Non-Saline Water Channels (EUNIS: J5.41)



Photos 7: *Achillea biebersteinii*



Photos 8: *Centranthus longiflorus*



Photos 9: *Convolvulus arvensis*



Photos 10: *Dactylis glomerata*



Photos 11: *Melilotus officinalis*



Photos 12: *Pinus sylvestris*

When we look at the vegetation of the project site and its surroundings; A large part of it consists of lakeside and streamside vegetation. In addition to deciduous and mixed forests, coppice deciduous forests due to human influence, steep slopes, stony areas and clearings with steppe character constitute the general vegetation structure of the area.

➤ **Aquatic Habitats**

Habitat degradation and decline in aquatic ecosystems is increasing day by day due to anthropogenic and climate change. Interventions in the water regime, deterioration of water quality, poaching, and uncontrolled activities damage aquatic creatures and the habitats around them. It is important to have information about the spatial distribution of habitats and map habitats in order to understand, control and manage human impact on aquatic ecosystems.

In the classification of aquatic habitats in the area, the most current version of the EUNIS Habitat Classification was taken into consideration and an appropriate classification was made. This method of classification is a method that allows broader analysis of habitats in relation to ecological zones, climate, soil and pressures on the environment, as well as species, as well as being a way of comparing data with other countries, as well as using a standardized terminology. organized in main categories and their subheadings .

No special habitat type was found in the Tercan HEPP area in the examinations and studies carried out. Semi-natural habitats stand out in the regulator and power plant areas. Other areas are natural habitats along the stream. Fish that feed on algae, zooplankton or benthic creatures living in the area are at the top of the chain in the water. Fish habitats in the Tercan HEPP area where observations were made are given in Table 1.

Table 1 Tercan HEPP aquatic habitat And Features

EUNIS CODE	HABITAT NAME	FEATURES	RAID SPECIES
C2	surface streams	in the field other permanent or seasonal streams are representatives of this habitat type in the area	Top Trout generation; <i>salmo macrostigma</i> , Lower Trout generation; Trout And Golyan (Pearl) snapper (<i>Alburnoides bipunctatus</i>) moustachioed Fish Generation: moustachioed fish (<i>Barbus lacerta</i>), woodfish (<i>Acanthobrama marmid</i>) and the hornbill (<i>Chondrostoma regium</i>), fresh water mullet (<i>Squalius cephalus</i>) type diversity more is too much.

The stream bed generally looks like a natural habitat (Photo 13-14). The deteriorated habitat structures around Tercan HEPP have adapted to the natural environment since there has been no external influence so far.



Photos 13: Tercan HEPP in the field Exit juice around Semi-Natural habitat Structure



Photos 14 :Tuzla stream Natural habitat Structure

1.1 Tercan Dam And HEPP facility Effect in the field Floristic Defining Biodiversity

When we look at the vegetation of the project site and its surroundings; A large part of it consists of lakeside and streamside vegetation. In addition to deciduous and mixed forests, coppice deciduous forests due to human influence, steep slopes, stony areas and clearings with steppe character constitute the general vegetation structure of the area.

The project area is an area rich in floristic diversity and containing endemic rare plant taxa . Plant taxa protected under IUCN EN statuses in the region are presented in Table 2 .

Table 2: Distribution of Plant Taxa and Habitats Protected in CR and EN Statuses within the Scope of IUCN

Critical Herb taxa	English Name	Critical habitats	IUCN status
<i>Bellevia Crassa</i>	Virgo hyacinth	H3	MOST
<i>hesperis breviscapa</i>	highland eveningstar	H3	MOST
<i>Reseda tomentosa there is. glabrata</i>	towel necklace	H5	MOST
<i>Sonchus erzincanicus</i>	sorrel	C1.2	MOST
<i>Thymus convolutus</i>	bend down thyme	H3	MOST
<i>Trigonostadium intermedium</i>	sapphirewort	H3	MOST
<i>verbascum leiocarpum</i>	Robust mullein	H3	MOST

Critical Species and Habitats Analysis

A comprehensive list of CR, EN, and VU species (with VU species likely to trigger Criterion 1b) for the project's Area of Analysis (AoA) has been developed based on baseline data. In this context, critical flora species have been identified around the project area, and the critical habitats determined in the project area are listed in Table 2. As a result of the studies, 7 critical species have been identified in and around the project area (Table 2). All of these species have EN Status. In this context, the habitats where these species occur have been identified as critical habitats, and attention should be paid to the actions outlined in the Biodiversity Action Plan concerning these habitats.

1.2 Tercan Dam and HEPP facility Effect in the field faunistic Defining Biodiversity

1.2.1 Amphibian

that are and are likely to be found in the project area are listed and critical species are given in the report. There are no endangered and/or endemic amphibian species in the project area. Amphibian species found in the area are common species. The Tercan Dam lake and the post-dam stream environment appear to be quite suitable for amphibians. Plenty of *Pelophylax during field work ridibundus* (Lowland frog) was observed. No negativity or precautions that need to be taken have been observed for amphibians in the project area.

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.

1.2.2 Reptiles

There are no endemic reptile species in the project area. According to the IUCN lists, the only reptile species that is vulnerable to extinction 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.

Are *Mauremys* , which are partially or largely water-dependent reptile species. *casgica* , *Natrix tessellata* and *Natrix natrix* . The impact of these species may be due to the decrease in water in the stream bed due to water retention by dams and not enough water being released into the stream bed. However , since water is constantly released from the dam to the stream bed for electricity production, these species are currently No negative effects were observed.

The most important reptile data obtained from the field work carried out in the area is the Red-cheeked turtle (*Trachemys scripta*) species was observed in the ponding area in the stream bed under the spillway area. Since the dam area covers a very large area, no species could be observed in this area within a short observation period. It is also useful to observe its presence in the dam area. This species is an invasive species and needs to be observed, monitored and identified as the native species *Mauremys found in the area. casgica* If it threatens the existence of the species in the area and begins to take over the habitats of the natural species, it must be fought. Red-cheeked terrapin (*Trachemys scripta*) is recommended in the Biodiversity action plan.

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. **There is no** endemic or narrow-ranging reptile species in the project area .

Criterion 3: Refers to Migratory and/or Community Concentrated Species. **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 .**

1.2.3 Mammals

(*Lynx*) is *one* of the species likely to be distributed in the region. *lynx*) **is listed in the EN category according to** the IUCN Mediterranean assessment. However, the project area remains outside the IUCN Mediterranean evaluation area, the Mediterranean area is generally It covers the Aegean, Marmara and Mediterranean regions. This species is not listed as endangered in the global assessment. Despite this, in this report, this species is considered to be a Critical species and an evaluation has been made here. Although it is not endangered, an important mammal species for the project area is the Otter . Many otter feces were seen on the stones in the stream bed continuing from the dam foot. Power plant employees also confirmed the presence of the Otter in the region. The IUCN criterion for the species is NT and the Bern Convention criterion is Annex II . In other words, it is a fauna species that must be protected.

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 such features 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 .

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. In 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. Tercan of HES is located area special One evolutionary period It does not show. 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 .

1.2.4 Ornithology

As a result of the studies, a total of 42 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 2022 MAK decisions are given in Table 3 below .

Located around the facility from species 1 of them generation global is under threat on a large scale. This species Lesser Vulture (*Neophron percnopterus*) . Little Vulture (*Neophron percnopterus*) has been identified as "EN" endangered according to IUCN criteria. Birds around the facility 26 of its species are listed in BERN Agreement Annex-2, 7 in BERN Agreement Annex-1 and 6 in CITES Annex-1.

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

Little Vulture (*Neophron percnopterus*) has a global Red List status of “EN” endangered. The species is expected to be seen in the project area during migration and in the spring and summer months corresponding to the breeding season (Kirwan et al., 2008). In order for this criterion to be evaluated properly, very detailed scientific studies aimed at making population size estimates are required in the region (see Biodiversity Action Plan).

Criterion 2: endemic And Narrow Spread 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 Tercan Dam and HEPP 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 the region is vital to sustaining unique or distinctive evolutionary processes. Therefore, none of the habitats around the facility trigger Criterion 5.

Table 3 Project in the field Found And Finding Likely Bird Types

Type scientific First Name	Type Turkish name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
<i>Accipiter nisus</i>	Eurasian Sparrowhawk	Not Endemic	LC	Annex 2	KD	Annex 2
<i>Actitis hypoleucos</i>	Common Sandpiper	Not Endemic	LC	Annex 2	KD	KD
<i>Aegypius monachus</i>	Bearded Vulture	Not Endemic	LC	Annex 2	KD	KD
<i>Alcedo atthis</i>	Common Kingfisher	Not Endemic	LC	Annex 2	KD	KD
<i>Alectoris chukar</i>	Chukar Partridge	Not Endemic	LC	Annex 3	Annex 2	KD
<i>Anthus campestris</i>	Meadow Pipit	Not Endemic	LC	Annex 2	KD	KD
<i>Ardea purpurea</i>	Purple Heron	Not Endemic	LC	Annex 2	KD	KD
<i>Buteo rufinus</i>	Long-legged Buzzard	Not Endemic	LC	Annex 2	KD	Annex 2
<i>Calidris minuta</i>	Little Stint	Not Endemic	LC	Annex 2	KD	KD
<i>Carduelis carduelis</i>	European Goldfinch	Not Endemic	LC	Annex 2	KD	KD
<i>Chlidonias hybrida</i>	Whiskered Tern	Not Endemic	LC	Annex 2	KD	KD
<i>Chlidonias leucopterus</i>	White-winged Tern	Not Endemic	LC	Annex 2	KD	KD
<i>Ciconia nigra</i>	Black Stork	Not Endemic	LC	Annex 2	KD	Annex 2
<i>Circaetus gallicus</i>	Short-toed Snake Eagle	Not Endemic	LC	Annex 2	KD	Annex 2
<i>Clanga pomarina</i>	Lesser Spotted	Not Endemic	LC	Annex	KD	Annex

	Eagle			2		2
<i>Columba livia</i>	Rock Dove	Not Endemic	LC	Annex 3	Annex 2	KD
<i>Columba palumbus</i>	Common Woodpigeon	Not Endemic	LC	KD	Annex 2	KD
<i>Coracias garrulus</i>	European Roller	Not Endemic	LC	Annex 2	KD	KD
<i>Corvus cornix</i>	Hooded Crow	Not Endemic	LC	KD	Annex 2	KD
<i>Corvus frugilegus</i>	Rook	Not Endemic	LC	KD	Annex 2	KD
<i>Corvus monedula</i>	Eurasian Jackdaw	Not Endemic	LC	KD	Annex 2	KD
<i>Coturnix coturnix</i>	Common Quail	Not Endemic	LC	Annex 3	Annex 2	KD
<i>Curruca communis</i>	Common Whitethroat	Not Endemic	LC	Annex 2	KD	KD
<i>Egretta garzetta</i>	Little Egret	Not Endemic	LC	Annex 2	KD	KD

Type scientific First Name	Type Turkish name	endemism	IUCN (Spherical)	BERN	MAKK	CITES
<i>Emberiza calandra</i>	Field Bunting	Not Endemic	LC	Annex 3	Annex 1	KD
<i>Falco subbuteo</i>	Eurasian Hobby	Not Endemic	LC	Annex 2	KD	Annex 2
<i>Fringilla coelebs</i>	Chaffinch	Not Endemic	LC	Annex 3	Annex 1	KD
<i>Galerida cristata</i>	Crested Lark	Not Endemic	LC	Annex 3	Annex 1	KD
<i>Larus armenicus</i>	Armenian Gull	Not Endemic	LC	KD	Annex 1	KD
<i>Linaria cannabina</i>	Linnet	Not Endemic	LC	Annex 2	KD	KD
<i>Motacilla cinerea</i>	Grey Wagtail	Not Endemic	LC	Annex 2	KD	KD
<i>Motacilla flava</i>	Yellow Wagtail	Not Endemic	LC	Annex 2	KD	KD
<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	Not Endemic	LC	Annex 2	KD	KD
<i>Parus major</i>	Great Tit	Not Endemic	LC	Annex 2	KD	KD
<i>Perdix perdix</i>	Common Partridge	Not Endemic	LC	KD	Annex 2	KD
<i>Pica pica</i>	Eurasian Magpie	Not Endemic	LC	KD	Annex 2	KD
<i>Plegadis falcinellus</i>	Glossy Ibis	Not Endemic	LC	Annex 2	KD	KD
<i>Spatula clypeata</i>	Northern Shoveler	Not Endemic	LC	Annex 3	Annex 1	KD
<i>Tadorna ferruginea</i>	Ruddy Shelduck	Not Endemic	LC	Annex 2	KD	KD
<i>Tringa glareola</i>	Wood Sandpiper	Not Endemic	LC	Annex 2	KD	KD

1.3 Tercan dam And HEPP facility Effect in the field hydrobiological biodiversity

Definition

The wetlands in the project area have different ecological characteristics. A total of 174 algal taxa belonging to 6 different classes were identified in all areas sampled . Of these, 100 belong to the classes Bacillariophyceae , 29 to Cyanophyceae , 33 to Chlorophyceae , 1 to Chrysophyceae , 7 to Euglenophyceae and 4 to Pyrrophyceae . A total of 29 genera and 100 species belonging to 8 families belonging to the orders Pennales and Centrales of the Bacillariophyceae class have been recorded. Six of these families belong to the order Pennales , and two belong to the order Centrales . In this study, 92 taxa belonging to the order Pennales and 8 species belonging to the order Centrales were recorded.

Naviculaceae stands out as the family with the most genera . 29 taxa belonging to two orders belonging to the Cyanophyceae class have been identified. Of these, Chroococcales While 7 taxa belonging to the order Hormogonales were identified 22 taxa belonging to the order were found.

Chlorophyceae class with 33 taxa belonging to 9 orders has been represented. 11 taxa from these orders Chlorococcales army front next while being found Zygnematales army 8, Desmidiaceae The order comes after with 6 taxa .

A single species belonging to the Chrysophyceae class has been identified. This species Chrysomonadales Dinobryon belonging to the order Sertularia . Euglenophyceae class Euglenales Identification of 7 taxa belonging to the order It carries out. Pyrrophyceae class peridinales to his army connected the one which... 4 The taxon was identified.

the Bacillariophyceae species identified in the study area are cosmopolitan species similar to those identified in many lakes of Turkey.

As a result of the study, a total of 17 species and 5 genera belonging to the Rotifera phylum were identified; A total of 25 zooplankton species, 2 species belonging to Cladocera and 1 species belonging to Copepoda. Taxon determination was made. It was observed that many rotifer species were detected due to the abundance of phytoplanktonic organisms and nutritional salts due to the increasing temperature during the sampling period .

As a result of the identification of invertebrates, a total of 65 taxa were found from three stations. In general, it is noteworthy that members of the order Diptera (20 taxa) and Ephemeroptera (11 taxa) from the Insecta class are dominant in all environments in terms of number of species and population densities. However, Odonata , Coleoptera and Hemiptera army members also high taxon in numbers have been found. Diptera The families Chironomidae from the order and Heptageniidae from the order Ephemeroptera were found to be more dense in terms of the number of species. Chironomidae from the Diptera family is dominant in the mud analyzes of Tuzla Stream and Tercan Dam Lake, especially in stagnant environments .

As a result of fish sampling studies in the project area and its immediate surroundings, a total of 13 fish taxa were caught and identified. 11 of them belong to the Cyprinidae , 1 Salmonidae and 1 Balitoridae family.

Barbus from the identified samples The plebejus species and its subspecies are included in the Annex III list of the international Bern Convention and are among the species that need to be protected. According to the European Red List, 4 species are not evaluated (NE) and all other species are in the low risk (LC) category. No species included in the CITES list have been observed in the project area.

Table 4: Project To the field belonging Alga Types

Class: BACILLORIOPHYCEA
Order : pennales
Family: Achnanthacea
<i>Achnanthes flexella</i> there is. <i>flexella</i>
<i>Achnanthes hungarica</i>
<i>Achnanthes lanceolata</i>
<i>Achnanthes minutissima</i>
<i>cocconeis pediculus</i>
<i>cocconeis placenta</i> there is. <i>euglypta</i>
<i>cocconeis placenta</i> there is. <i>lineata</i>
Family: naviculacea
<i>amphora coffeiformis</i>
<i>amphora commutata</i>
<i>amphora normanii</i>
<i>amphora ovalis</i>
<i>amphora veneta</i>
<i>stauroneis smithii</i>
<i>anomoeoneis sphaerophora</i>
<i>anomoeoneis sphaerophora</i> there is. <i>costata</i>
<i>caloneis alpestris</i>
<i>caloneis bacillum</i>
<i>caloneis permagna</i>
<i>caloneis schumanniana</i>
<i>Cymbella affinis</i>
<i>Cymbella caespitosa</i>
<i>Cymbella cistula</i>
<i>Cymbella cymbiformis</i>
<i>Cymbella helvetica</i>
<i>Cymbella lanceolata</i>
<i>Cymbella prostrata</i>
<i>Diploneis ovalis</i>
<i>gomphonema acuminatum</i>
<i>gomphonema angustatum</i>
<i>gomphonema angustum</i>
<i>gomphonema gracile</i>
<i>gomphonema olivaceum</i>
<i>gomphonema parvalum</i>
<i>gomphonema pseudoaugur</i>
<i>gomphonema truncatum</i>
<i>gyrosigma acuminatum</i>
<i>gyrosigma attenuatum</i>
<i>Navicula capitatoradiata</i>
<i>Navicula cincta</i>
<i>Navicula cryptocephala</i>
<i>Navicula cuspidata</i>
<i>Navicula gracilis</i>
<i>Navicula nivalis</i>
<i>Navicula oblonga</i>
<i>Navicula pupula</i>
<i>Navicula pygmaea</i>

<i>Navicula radiosa</i>
<i>Navicula rhyncocephala</i>
<i>Navicula tuscula</i>
<i>Navucila bacillum</i>
<i>neidium affine</i>
<i>neidium dubium</i>
<i>pinnularia borealis</i>
<i>pinnularia microstauron</i>
<i>Rhoicosphenia abbreviata</i>
Family: Epithemiacea
<i>denticula elegance</i>
<i>denticula kuetzingii</i>
<i>Epithemia Argus</i>
<i>Epithemia sorex</i>
<i>Rhopalodia constricta</i>
<i>Rhopalodia gibba</i>
Family: Bacillariacea
<i>Bacillaria paradoxa</i>
<i>hantzschia amphioxys</i>
<i>Nitzschia amphibia</i>
<i>Nitzschia constricta</i>
<i>Nitzschia dissipate</i>
<i>Nitzschia gracilis</i>
<i>Nitzschia hantschiana</i>
<i>Nitzschia hungarica</i>
<i>Nitzschia linearis</i>
<i>Nitzschia obtusa</i>
<i>Nitzschia palea</i>
<i>Nitzschia sigmoidea</i>
<i>Nitzschia tryblionella</i>
Family: surirellacea
<i>Cymatopleura elliptica</i>
<i>Cymatopleura solea</i>
<i>surirella angusta</i>
<i>surirella brebissonii</i>
<i>surirella brightwelli</i>
<i>surirella ovalis</i>
Family: Fragilariacea
<i>diatom hiemala</i>
<i>diatom tenuis</i>
<i>diatom vulgaris</i>
<i>Fragilaria capucina</i>
<i>Fragilaria contruens</i>
<i>Fragilaria crotonensis</i>
<i>Fragilaria dilatata</i>
<i>Fragilaria parasitica</i>
<i>Fragilaria pulchella</i>
<i>Fragilaria ulna</i>
<i>Fragilaria vaucheria</i>
<i>meridion circulare</i>
Order : centrales
Family: Melosiraceae

<i>Melosira varians</i>
Family: Thalassiosiraceae
<i>aulacoseira granulate</i>
<i>aulacoseira ambigua</i>
<i>cyclotella comta</i>
<i>cyclotella kützingiana</i>
<i>cyclotella meneghiniana</i>
<i>cyclotella ocellata</i>
<i>stephanodiscus astrea</i>
Class: CYANOPHYCEA
Order : Chroococcales
<i>Chroococcus minutus</i>
<i>Chroococcus turgidus</i>
<i>gomphosphaeria aponina</i>
<i>Merismopedia elegance</i>
<i>Merismopedia glauca</i>
<i>Merismopedia punctate</i>
<i>microcystis aeruginosa</i>
Order : Hormogonales
<i>anabaena komvophoron</i>
<i>anabaena spiroides</i>
<i>calothrix epiphytica</i>
<i>calothrix fusca</i>
<i>Lynbya aestuarii</i>
<i>Lynbya hieronymusii</i>
<i>nostoc commune</i>
<i>Oscillatoria agardhii</i>
<i>Oscillatoria brevis</i>
<i>Oscillatoria formosa</i>
<i>Oscillatoria imnetica</i>
<i>Oscillatoria limosa</i>
<i>Oscillatoria rubescens</i>
<i>Oscillatoria subbrevis</i>
<i>Oscillatoria tenuis</i>
<i>spirulina laxissima</i>
<i>spirulina major</i>
<i>spirulina sp.</i>
<i>Phormidium mucicola</i>
<i>Schizothrix natans</i>
<i>Gloeotrichia echinulata</i>
Class: CHLOROPHYCEA
Order : Volvocales
<i>Chlamydomonas globosa</i>
<i>Gonium pectoral</i>
Order : Tetrasporales
<i>Gloeocystis sp.</i>
Ordo ; ulothrichales
<i>ulothrix subconstricta</i>
Order : Microsporales

<i>Microspora stagnorum</i>
Ordo ; Cladophorales
<i>Cladophora fracta</i>
<i>Cladophora glomerata</i>
Order : oedogoniales
<i>oedogonium sociale</i>
Order : chlorococcales
<i>Ankistrodesmus falcatus</i>
<i>coelastrum microporum</i>
<i>oocystic borgei</i>
<i>oocystic Crassa</i>
<i>Pediastrum borianum</i>
<i>Pediastrum duplex</i>
<i>Pediastrum simplex</i>
<i>Scenedesmus acuminatus</i>
<i>Scenedesmus ecornis</i>
<i>Scenedesmus in quadricau</i>
<i>tetrahedron minimum</i>
Order : Zygnematales
<i>Mougeotia sp.</i>
<i>Spirogyra circumlineata</i>
<i>Spirogyra dubia</i>
<i>Spirogyra sp. one</i>
<i>Spirogyra sp. 2</i>
<i>Spirogyra sp. 3</i>
<i>Zygnema ericetorum</i>
<i>Zygnema sp.</i>
Order : Desmidiiales
<i>Closterium diana</i>
<i>Closterium lunula</i>
<i>cosmarium botrystis</i>
<i>cosmarium garnet</i>
<i>cosmarium margaritatum</i>
<i>staurodesmus sp.</i>
Class: CHRYSOPHYCEA
Order : Chrysomonadales
<i>Dinobryon sertularia</i>
Class: EUGLENOPHYCEA
Order : Euglenales
<i>Euglena acus</i>
<i>Euglena oxyrus</i>
<i>Euglena polymorpha</i>
<i>Phacus in curvica</i>
<i>Phacus orbicularis</i>
<i>Phacus radicola</i>
<i>trachelomonas sp.</i>
Class: PYRROPHYCEAE
Order : peridinales

<i>ceratium hirundinella</i>
<i>glenodinium sp.</i>
<i>peridinium cinctum</i>
<i>peridinium sp.</i>

Table5: Project To the field belonging zooplanktonic Types

ROTIFERA
<i>brachionus patulus</i>
<i>colurella colurus</i>
<i>colurella uncinata</i>
<i>colurella adriatica</i>
<i>colurella obtusa</i>
<i>cephalodella gibba</i>
<i>cephalodella catellina</i>
<i>cephalodella ventripes</i>
<i>cephalodella Tenuior</i>
<i>cephalodella sp</i>
<i>Dissotrocha sp.</i>
<i>Euchlanis sp.</i>
<i>keratella tecta</i>
<i>Lecane hamata</i>
<i>lepadella patella</i>
<i>lepadella quadricarinata</i>
<i>lepadella sp.</i>
<i>Lindia sp.</i>
<i>polyarthra remata</i>
<i>proales theodora</i>
<i>proales fallaciosa</i>
<i>philodina megalotrocha</i>
<i>Bedelloid rotifer</i>
CLADOCERA
<i>Moina sp.</i>
<i>Alona rectangular</i>
IN COPEPO
<i>cyclops sp.</i>
Nauplius

Table 6: Project To the field benthic organisms

Branch: ANNELIDA
Class: CLITELLATA
Set: HIRUDINEA
Family: Erpobdellidae
<i>Erpobdella sp.</i>
Class: OLIGOCHAETA
Set: LUMBRICULIDAE
<i>Lumbriculus variegatus</i> (Müller , 1774)
Set: TUBIFICIDA
Family: tubificidae
<i>tubifex tubifex</i> (Müller,1774)
<i>limnodrilus udekemianus</i> Claparède , 1862
<i>potamotheix hammoniensis</i> (Michaelsen , 1901)
Family: Naididae
<i>Nais communis</i> Piguet , 1906
<i>Nais variabilis</i> Piguet , 1906
<i>Nais elinguis</i> Müller , 1773
<i>Pristinella jenkinsae</i> (Stephenson , 1931)
Branch: ARTHROPODA
Class: CRUSTACEA
Set: AMPHIPODA
Family: Gammaridae
<i>gammarus pulex</i>
Set: IN DECAPO
Family: Oniscidae
<i>Potamon sp.</i>
Class: INSECTA
Set: HEMIPTERA
Family: Corixidae (nymph)
<i>Micronecta sp.</i>
Family: Hydrometridae
<i>hydrometra sp.</i>
Family:Corixidae
<i>Corixa sp.</i>
Family:Gerridae
<i>Geris sp.</i>
Family:Notonectidae
<i>notonecta sp.</i>

Table 7: Tercan Tea I Fish Types And Protection Status

Family	Type And subspecies	Turkish First Name	endemism	BERN	IUCN	CITES	natural kind	exotic species
Salmonidae	<i>Oncorhynchus mykiss</i> (Walbaum, 1792)	Rainbow Trout	-	-	WHA T	-	X	-
Cyprinidae	<i>Alburnoides eichwaldi</i>	Dotted Barbel	-	-	LC	-	X	-
	<i>Acanthobrama marmid</i> Heckel, 1843	Wood Barbel	-	-	LC	-	X	-
	<i>Barbus plebejus</i>	Common Barbel	-	Additional III	LC	-	X	-
	<i>Luciobarbus mystaceus</i>	Mustached Barbel	-	-	WHA T	-	X	-
	<i>Alburnus mossulensis</i> Heckel, 1843	Mosul Barbel	-	-	WHA T	-	X	-
	<i>Capoeta capoeta</i>	Capoeta	-	-	WHA T	-	X	-
	<i>Capoeta trutta</i> (Heckel, 1843)	Brown Trout	-	-	LC	-	X	-
	<i>Cyprinion macrostomum</i>	Big-mouthed Barbel	-	-	LC	-	X	-
	<i>Chondrostoma regime</i> (Heckel, 1843)	Karaburun Barbel	-		LC		X	-
	<i>Garra rufa</i> (Heckel, 1843)	Doctor Fish	-		LC		X	-
	<i>Squalius cephalus</i> (L., 1758)	Common Chub	-		LC		X	-
Balitoridae	<i>Xynoemacheilus argyrogramma</i>	Scavenger Fish	-		LC		X	-

1.4 Biodiversity Risk Evaluation

1.4.1 Flora

of the project's Area of Analysis (AoA), CR, EN and VU types (VU types likely to trigger Criterion 1b) has been developed based on baseline data. In this context, critical flora species have been identified around the project area, and the critical habitats determined in the project area are given in Table 2. made As a result of the studies, 7 critical species were identified in the project area and its surroundings (Table 2). All of these species have EN Status. In this context, the habitats where these species occur have been determined as critical habitats, and information about critical habitats is given in Table 8.

Table 8: IFC In the scope of Critical Type And habitat Evaluation

Critical Herb taxa	Turkish First Name	Critical habitats
<i>Bellevalia crassa</i>	Virgo Hyacinth	H3
<i>Hesperis breviscapa</i>	Highland Eveningstar	H3
<i>Reseda tomentosa</i> var. <i>glabrata</i>	Towel Necklace	H5
<i>Sonchus erzincanicus</i>	Sorrel	C1.2
<i>Thymus convolutus</i>	Bend Down Thyme	H3
<i>Trigonosciadium intermedium</i>	Sapphirewort	H3
<i>Verbascum leiocarpum</i>	Robust Mullein	H3

➤ 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.






of the project effect in the field invader flora types detection (Table 3.10). biodiversity Action
The plan must be followed.

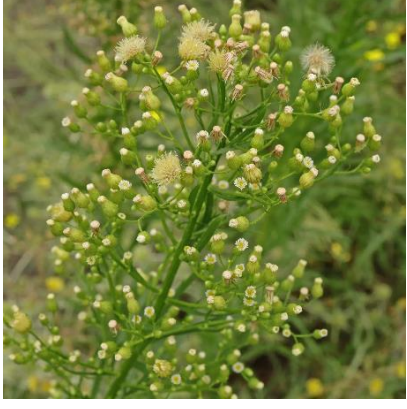



Energy investment areas are areas shaped by human influence. Construction activities arising from the nature of the investment in these areas have been tried to be rehabilitated through landscape planning around the roads and buildings . The ability of some plant species used here to survive and spread 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.






Table9: Project in the field Found Invader Species





<p><i>Acer negundo</i> (ash tree leafy maple) Areas open to andropogenic influence</p>	
<p><i>agropyron repens</i> (Separate herb) Field, open area</p>	

<p><i>ailanthus altissima</i> (Kokarağaç) andropogenic to the effect open spaces</p>		
<p><i>amaranthus retroflexus</i> (Fox dry) Field, open area</p>		
<p><i>Boreava orientalis</i> (Sariat) Field, roadside</p>		
<p><i>chenopodium album</i> (While crying) Flood, flood bearings</p>		
<p><i>Cirsium arvense</i> (Köygöçüren) Flood, flood bearings</p>		

<p><i>conyza canadensis</i> (cypress) andropogenic to the effect open fields</p>		
<p><i>conyza bonariensis</i> (Coyote) andropogenic to the effect open spaces</p>		
<p><i>conyza albida</i> (Maplewort) andropogenic to the effect open spaces</p>		
<p><i>Cuscuta campestris</i> (Turkish) meadow-pasture habitats</p>		

<p><i>Lepidium draba</i> (Diġnik) andropogenic to the effect open spaces</p>	
<p><i>nasturtium officinale</i> (Suteresi) streamside</p>	
<p><i>Reseda lutea</i> (Love flower) Path edge, field</p>	
<p><i>rumex acetocella</i> (Sorrel) Path edge, field And barren places</p>	

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

<p><i>Paspalum distichum</i> (This discrete) This communities inside on channels</p>		
<p><i>Robinia pseudoacacia</i> (White flowering liar acacia) roadsides</p>		
<p><i>Xanthium strumarium</i> (Big Pitarak) Flood, flood bearings</p>		
<p><i>Xanthium spinosum</i> (Yellow Pitarak) Flood, flood bearings</p>		

Viscum album (Lime herb) to the trees interference



1.4.2 Fauna

IFC PS-6 and Guidance Taking into account the Note 6 criteria, the "critical species" evaluation and "critical habitat" evaluation were made in section 4.5 , 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. Since it is not a water-dependent species, it has been evaluated that the facility does not have a negative impact on this species. However, 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.

Lynx Risk assessment for *lynx*): *The habitat of the project area and its surroundings seems very suitable for this species.* It is difficult to be seen by humans because it prefers to stay away from humans and is very well camouflaged. Negative feedback from a HEPP facility due to the animal's lifestyle to be affected much possible It is not visible. However type about your awareness It would be useful to increase the number of species and take some precautions to prevent harm to the species, especially in human-lynx encounters. These issues are detailed in the Biodiversity Action Plan.

Risk assessment for otter (*Lutra lutra*) : Its presence in the project area was determined by us and confirmed by project staff. There are plenty of fish in the stream bed after the dam and a very suitable area for otter feeding has been created. has been observed. This connected aspect in in the field This in your bed of rocks on plenty of

Otter droppings have been observed. No threat to the species has been observed. It would be beneficial for the species to reduce human activity and never fish in the ponded water bed below the Spillway outlet , which is understood to be frequently used by the otter . These issues are detailed in the Biodiversity Action Plan.

Red-cheeked terrapin (*Trachemys scripta*) species : This species is a commercial species brought to Turkey through animal trade and sold in pets. However owners watery due to leaving it to the fields Turkey's various It started to be observed in water resources in the regions. It is an invasive and alien species. There is a risk of competing with similar natural species in the water resources where they are released and taking over their habitats, reducing the amount of natural native species or removing them from the environment. In this regard, it is necessary to monitor this invasive species in the field and reveal the extent of the risk it will pose. These issues are detailed in the Biodiversity Action Plan.

1.4.3 Ornithology

IFC PS-6 and Guidance Taking into account the Note 6 criteria, the “critical species” evaluation and “critical habitat” evaluation were made in section 4.5 , and there are Critical species in terms of birds in the region. This species is the Lesser Vulture (*Neophron percnopterus*) . Attention should be paid to the actions provided in the Biodiversity Action Plan for the species in question.

Moreover facility around percolator other some bird species also detection has been And This species There is a risk of collision with transmission lines. Some of these species include the red hawk (*Buteo rufinus*) and the lesser forest eagle (*Clanga pomarina*) . valley of the facility Its location at the base reduces the risk of soaring bird collisions with electrical transmission lines in the facility (Hanssen et al., 2020). of the facility By reducing the water flow of itself and the regulator, it directly affects the birds that live directly connected to the stream and the riverside, riparian habitats. Some of these species include the ostrich (*Cinclus cinclus*), white wagtail (*Motacilla alba*) and mountain wagtail (*Motacilla cinerea*). For this reason, it is of great importance for the bird species living in the region between the regulator and the HEPP to have sufficient amounts of living water at all times. Necessary determinations must be made on this issue and, if necessary, measures must be taken according to the results (see Biodiversity Action Plan). Apart from this, the facility does not have a direct negative impact on bird diversity and populations.

1.4.4 hydrobiology

There are no intensive fishing activities in the region. Domestic and industrial pollution sources of residential areas in the upper basin of Tercan significantly threaten the existence and density of fish species. These species are widespread and abundant in the inland waters of all Anatolia.

Rivers are complex and dynamic ecosystems. By changing these areas, lotic species will be affected and reduced by the loss of breeding grounds along with significant environmental change. River species normally live and spawn in shallow places and look for such habitats after the formation of the dam lake. If they cannot find it, they face losing competition with other lentic species due to the difference in their ecological niches. After the formation of such areas in HEPP-like applications, areas where some species can live should also be protected. Aquatic species; It adapts to the living conditions in a particular river section and creates characteristic biocoenoses shaped by the change of abiotic factors along the stream (Vannote et al. 1980). Algae, zooplankton and benthic organisms living in the stream environment can also create new communities within this biocenosis and create significant changes, especially in the food pyramid. More productive stagnant water environments can constitute important food areas for all aquatic creatures.

invasive algae, zooplankton , benthic organisms or fish species were found in Tercan HEPP and surrounding areas. Social responsibility projects and biodiversity action plans are important at this point.

1.4.5 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. The Waste Management that should be implemented within the scope of the project is given in Table 10 .

Table 10 :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 11.03.2017 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.
		PACKAGING waste	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 .
		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 Battery And 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 establishment of 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 separately waste 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 25.11.2006 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.

It has been determined that waste scrap materials are stored on soil ground in some areas of the facility, and care should be taken to store scrap materials on concrete floors.

Domestic wastewater generated within the scope of the project It is collected in the septic tank and it has been determined that it is disposed of by using a sewer truck service.

However, it was observed that the project was outside the scope of the Environmental Permit and License Regulation. However, it has been determined that no application has been made under the Environmental Permit and License Regulation. Applications must be made urgently for the facility in question within the scope of the Environmental Permit and License Regulation.

1.5 Biodiversity Action plan

Tercan dam And HEPP facility biodiversity Action plan							
Action Code	Habitat Class	Action Subject	Action Zone	Action Rationale	Action/Application Details	Action Period	Action Duration
T1	Critical Habitats	Critical Habitat Protection	Critical Habitats (H3, H5, C1.2)	Project Effect Area It should be protected because it contains habitats that have not lost their naturalness and contain critical flora species.	Tree segments of Prevention, Not Throwing Waste or Residual Materials, Not Lighting Fires, Preventing Dust Emission from Vehicles and Raising Awareness with Warning Signs Your studies to be done	During Operation	During Operation
T2	Critical Habitats	Critical Conservation of Plant Species	(H3, H5, C1.2)	Endangered Flora types Research should be conducted in the Project Area and its surroundings	Population by Expert Biologists Level Monitoring	During Operation	Between March and November Each Moon 3 Days, Total 27 Days 5 Years Population Views And mapping
T3	All Habitats	Critical Conservation of Fauna Species	General Area	Endangered Fauna types His research particularly focused on the Lesser Vulture (<i>Neophron Percnopterus</i>) Type in Project Area and Surroundings It should be investigated	Population by Expert Biologists Level Monitoring	During Operation	2 Year Duration: March- November Between

T4	All Habitats	Critical Conservation of Fauna Species	General Area	Red-cheeked terrapin <i>Trachemys scripta</i> And <i>mauremys caspica</i> Project Area of Types and Around It should be investigated	Population by Expert Biologists Level Monitoring	During Operation	2 Year Duration: June-July
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Tercan dam And HEPP facility biodiversity Action plan							
Action Code	Habitat Class	Action Subject	Action Zone	Action Rationale	Action/Application Details	Action Period	Action Duration
T5	Business	Fauna Conservation of Species	Project Area And surroundings	Tortoise (<i>Testudo</i> Facility Employees Should Be Provided Training About <i>Graeca</i>) 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
T6	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 animals It must be given .	Company By	During Operation	Continually
T7	All Habitats	Fauna Conservation of Species	Project Area And surroundings	Otter (<i>Lutra Lutra</i>) Species in the Project Area and Surroundings It should be investigated And Education It should be given.	Population by Expert Biologists At the level Tracing	During Operation	2024 Year September Bear 1 Time
T8	Business	Fauna Conservation of Species	Project Area And surroundings	Lynx <i>About the Lynx</i>) Species Facility Employees Should Be Provided Training	Biologists who are experts on the subject Training Should Be Provided by	During Operation	April-May 2024

Tercan dam And HEPP facility biodiversity Action plan							
Action Code	Habitat Class	Action Subject	Action Zone	Action Rationale	Action/Application Details	Action Period	Action Duration
T9	Business	Fauna Conservation of Species	Project Area And surroundings	Bear (<i>Ursus</i>) in the area <i>arctos</i>) is available. Human-bear encounters can sometimes be dangerous. In order not to attract bears to the area, there are no open areas in the facility. Garbage containing food should never be left behind. A trash management plan should be prepared and information on how to store and remove trash that might attract bears should be prepared. The application must be reported.	Company By	During Operation	Continually
T10	Business	Fauna Conservation of Species	Project Area And surroundings	Pet Cats Should Never Be Kept in the Facility. Although it is recommended not to keep a pet dog, even if it is kept, it may be dangerous, especially at night. Free to their wanderings Permission should not be given	Company By	During Operation	April-May 2024
T11	All Habitats	Invader Blocking Species	Project Area And surroundings	Especially <i>Ailanthus</i> in the Project Area and Surroundings <i>altissima</i> Invasive Species Investigating Project Area and Surroundings by watching dismantling Plan Must Be Prepared	Population by Expert Biologists Level Monitoring	During Operation	one Year Duration in July and August

Tercan dam And HEPP facility biodiversity Action plan							
Action Code	Habitat Class	Action Subject	Action Zone	Action Rationale	Action/Application Details	Action Period	Action Duration
T12	Business	Fish Conservation of Species	Project Area	Some Fish Species Have Long Distance and Some Have Short Distance Migration They are the species that can . Particularly Gene Diversity of Fish It is important to make a fish passage to prevent it from narrowing.	In the Coordination of Biologists Expert on the Subject By Company	During Operation	2023 May-August
T13	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
T14	Business	Prevention of Environmental Pollution	Project Area	Licensed in accordance with the Waste Codes for Non-Hazardous Wastes Generated within the Business Companies Delivery to Recycling / Disposal Facilities by It should be done.	Company By	During Operation	per year one
T15	Business	Prevention of Environmental Pollution	Project Area	domestic wastewater Towing with a Sewage Truck	Company by	During Operation	septic tank 80% When You Reach Your Level

T16	Business	Regulatory Compliance	Project Area	Obtaining Environmental Permit Exemption It is necessary.	Company by	During Operation	2022 December
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PROJECT TEAM

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

