



## **BIODIVERSITY SUMMARY REPORT**

**YELEN – GÜLPINAR ENERJİ ÜRETİM SAN. VE TİC. A.Ş.**

**GÜLPINAR WIND POWER PLANT**

**CANAKKALE PROVINCE, CENTRE DISTRICT, OVACIK, SALİHLER,  
DENİZGÖRÜNDÜ, KARAPINAR VILLAGES LOCATION**

## **Entrance**

Gülpınar RES project is planned with 10 turbines and a capacity of 30 MWm / 25 MWe. Regarding the project in question, an EIA Positive Decision was taken with the decision dated 01.08.2018 and numbered 5156. EIA Positive decision No. 5156 have a capacity of 3.5 MWm / 2.5 MWe. With the revision in the software, the unit powers were changed to 3.5 MWm/ MWe and by adding 30 turbines (10 x 3.5 MWm/ MWe + 20 x 4.5 MWm/MWe) and 125 MWm/MWe power, the total project capacity became 40 turbines and 160 MWm. /MWe was determined and the EIA Positive Decision was taken with decision number 5886 and dated 08.05.2020.

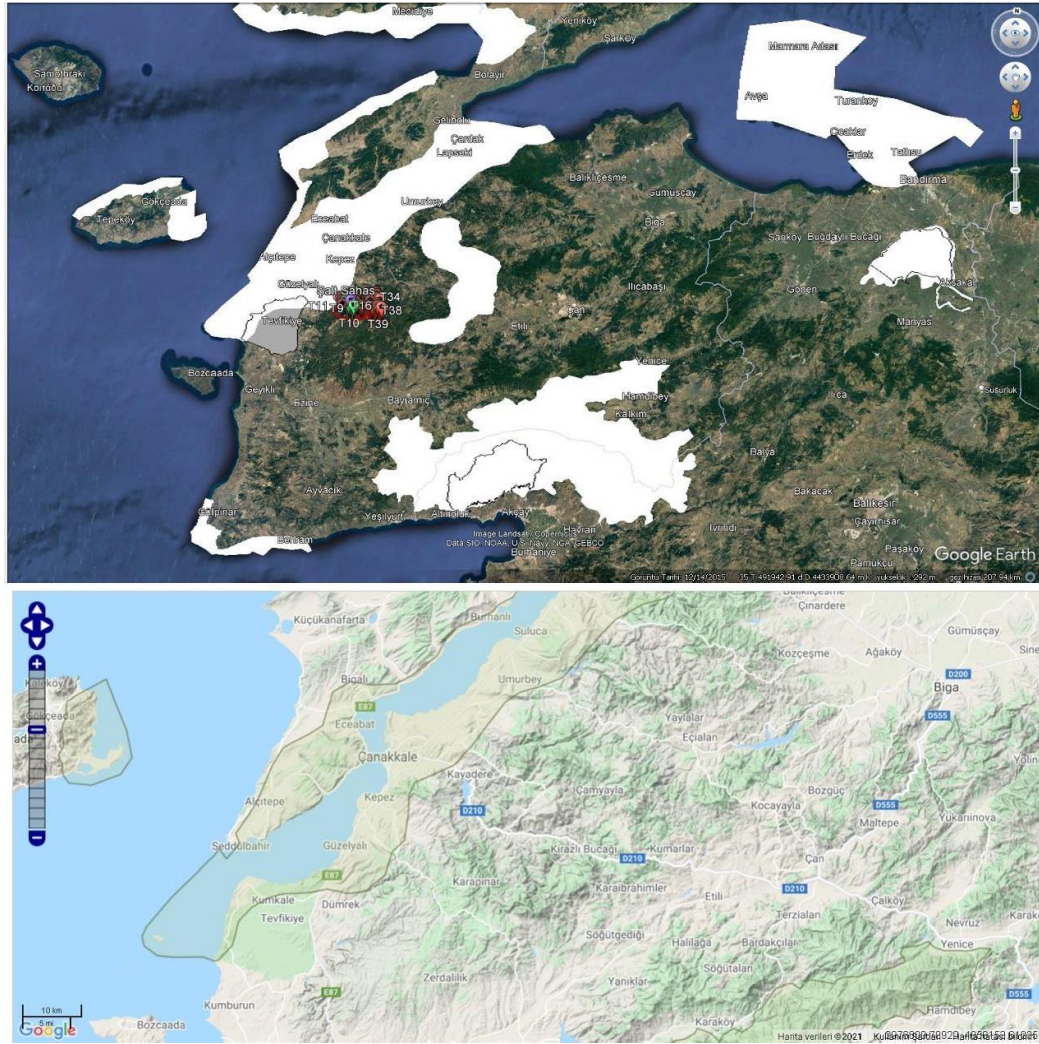
Subsequently, the number of turbines, which was 40, was planned to be decreased to 39, and the installed capacity of the facility, which was 160 MWm/MWe, was planned to be 193.52 MWm/165.56 MWe, with an increase of 33.52 MWm/5.56 MWe. With the planned turbine reduction, turbine number T23 will be removed from the application at this stage.

In this context, based on the letter of the Republic of Turkey Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks, numbered E.719558 and dated 12.03.2020, a total of 10 of them are in operation in Çanakkale Province, Merkez District, Ovacık, Denizvizyondü, Salihler and Karapınar Villages. Spring and Autumn Bird Migration Period Ornithological and Terrestrial Fauna Monitoring Studies have been carried out for Gülpınar RES, which consists of 39 turbines, since March 2019. All these studies; Assoc. Dr. Tarkan YORULMAZ, Dr. It is carried out by Biologist İbrahim UYSAL, Expert Biologist Himmet Ulaş KIŞLAKCI, Expert Biologist Özgür Can SÖNMEZ, Biologist Yılmaz ÖZTEMEL, Biologist Mustafa Berkay ŞAHİN, Environmental Biologist Emre DURUKAN and Biologist Özge ÖÇALAN.

## **Biogeographical Position of the Site**

There are four different ecologically important areas around Gülpınar Wind Power Plant (WPP). These;

- Dardanelles: The area evaluated in the Important Natural Area (INA) and Important Bird Area (IBA) categories,
- Biga Mountains: The region classified as an Important Natural Area (INA),
- Kaz Mountains: This area is an Important Natural Area (INA), Important Bird Area (IBA).
- Troy: These areas are considered as Historical National Parks.



Map showing the relationship of Gülpınar WPP site with protected areas (above) and map showing its relationship with Important Bird Areas (below)

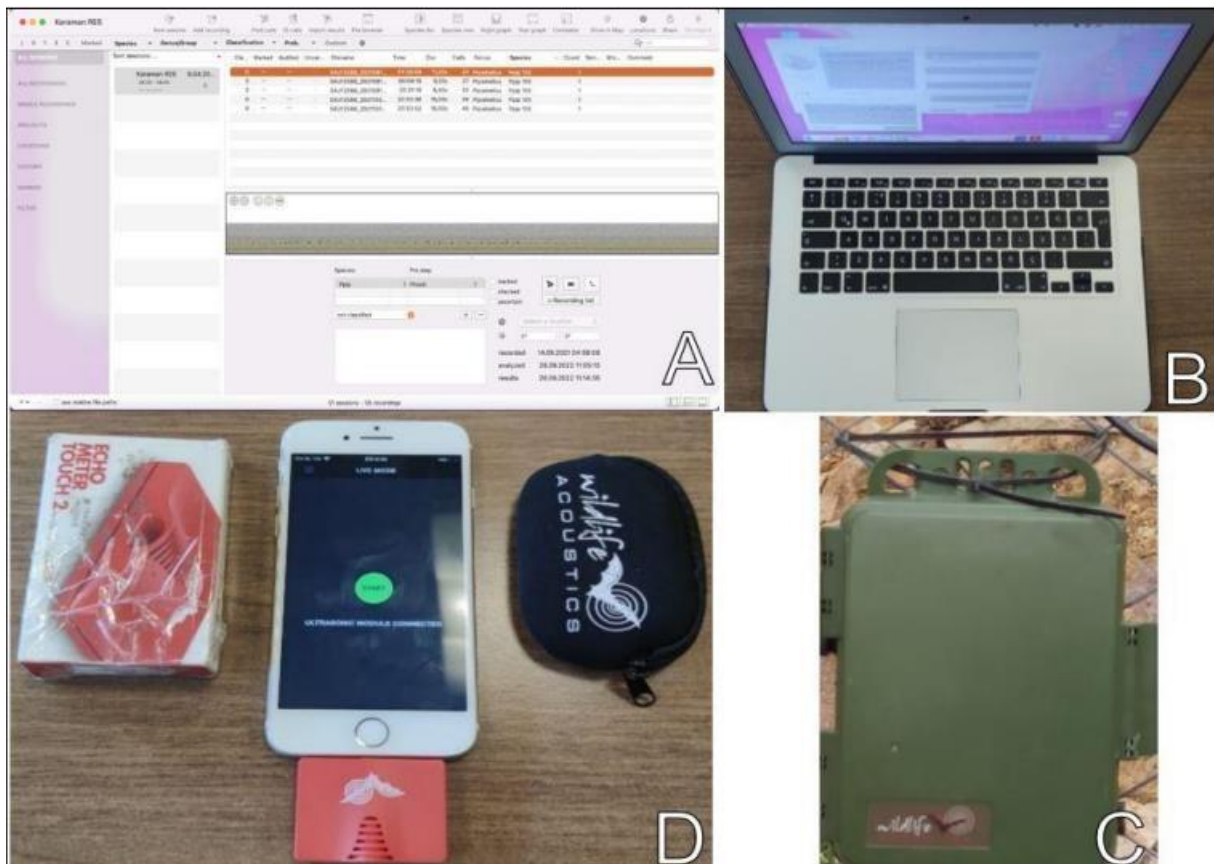
## Tracking Devices and Coordinates

During bird observations;

- Bushnell 20-60X 65mm telescope,
- Nikon 10-22X 50mm binoculars,
- Nikon 7d mk2 with Canon EF 400 mm f/5.6 USM lens (8x zoom compared to the human eye)
- Nikon Coolpix P900 (0.5x to 40x zoom relative to the human eye) camera

During Terrestrial Fauna Monitoring Studies;

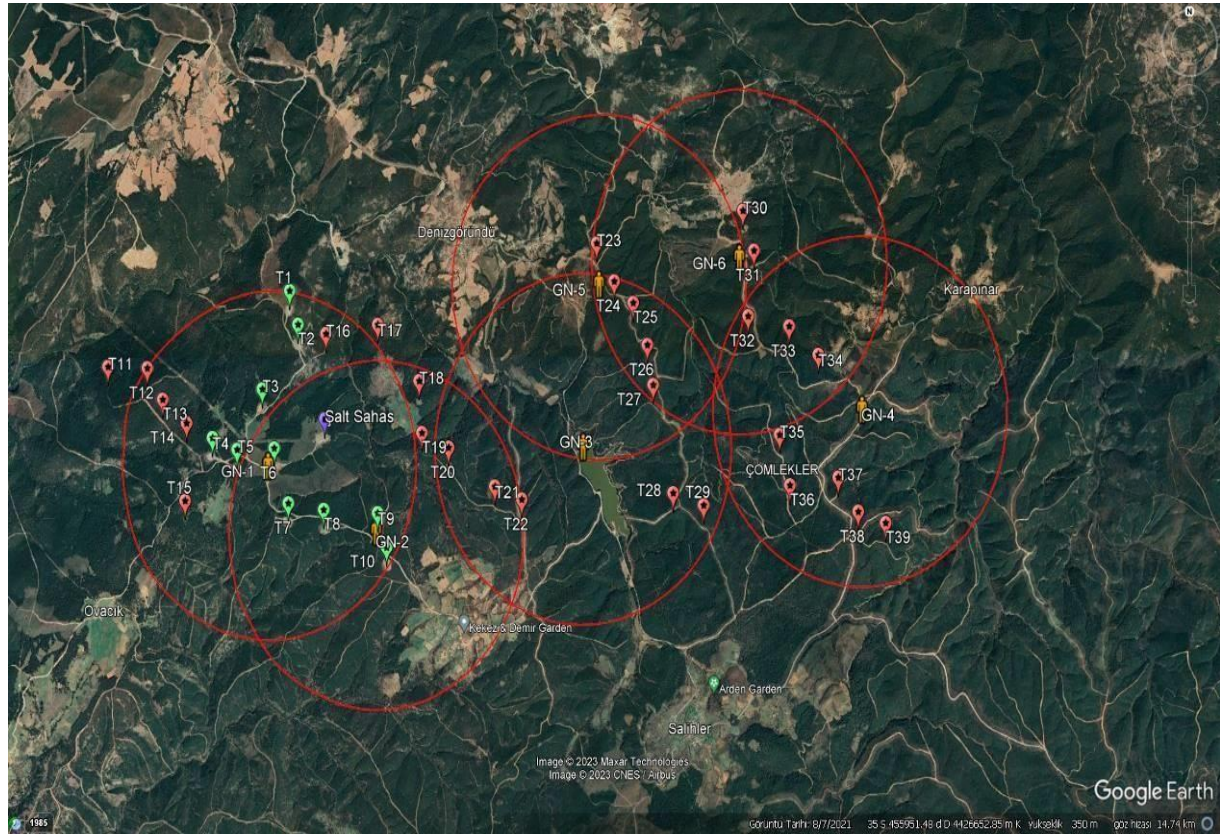
- A BcAdmin program used in analyses,
- B) MacBook Air Computer Used in Analyzes,
- C) Stationary Bat Device for Full Spectrum Acoustic Sound Recording – Wildlife Acoustics SM4BAT FS,
- D) Mobile Detector Used in Scans - Echo Meter Touch 2 IOS
- E) Photo traps are used. The visual of the relevant equipment is below.



Throughout the studies, observed species and their number of individuals, their estimated heights, distances to the turbines, the closest turbine point they pass (estimated), transit times and other observation information are recorded on the observation card using nationally and internationally accepted data processing methods.

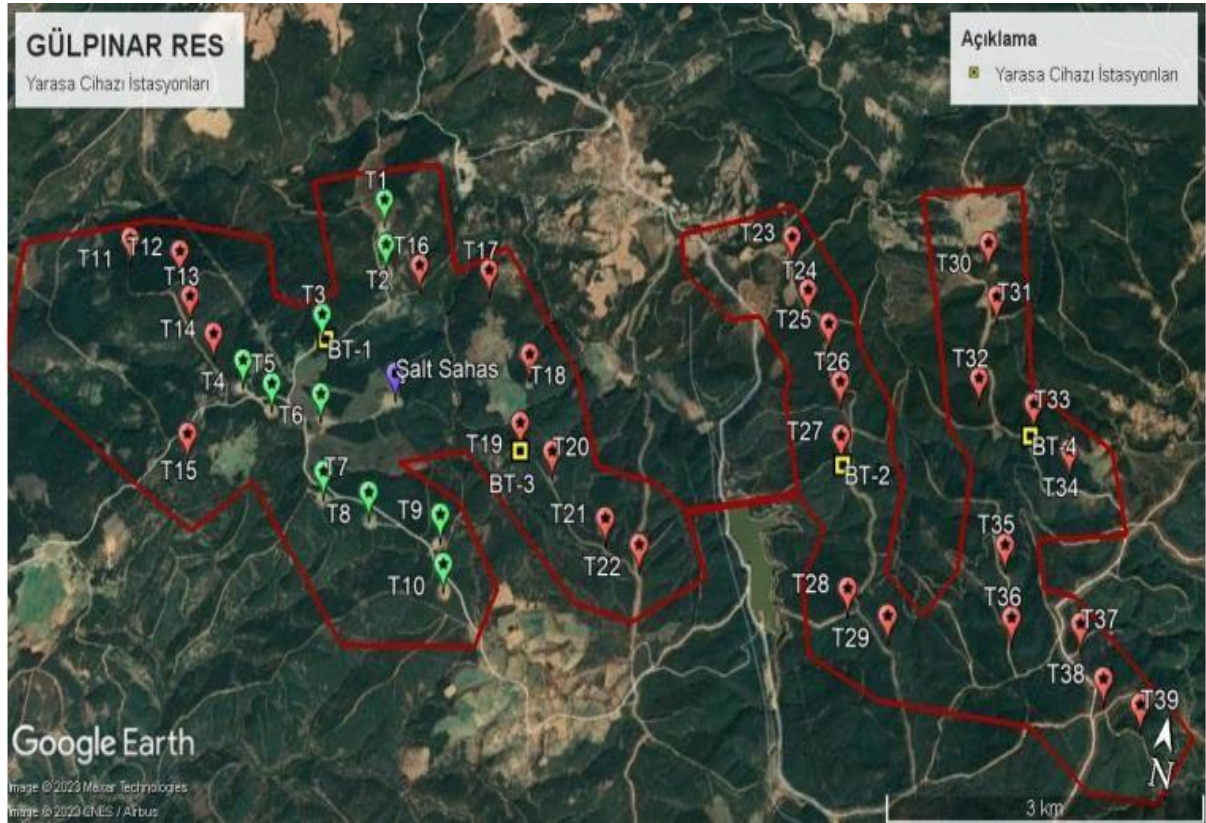


The selected bird observation coordinates consist of 4 dominant points specifically chosen to see the two halves of the WPP site and the passage routes between and around the site, and were used both in autumn and spring.



*Bird observation stations in the WPP area*





*Bat Device Stations on the Field*



*Bat Device Station on Field*



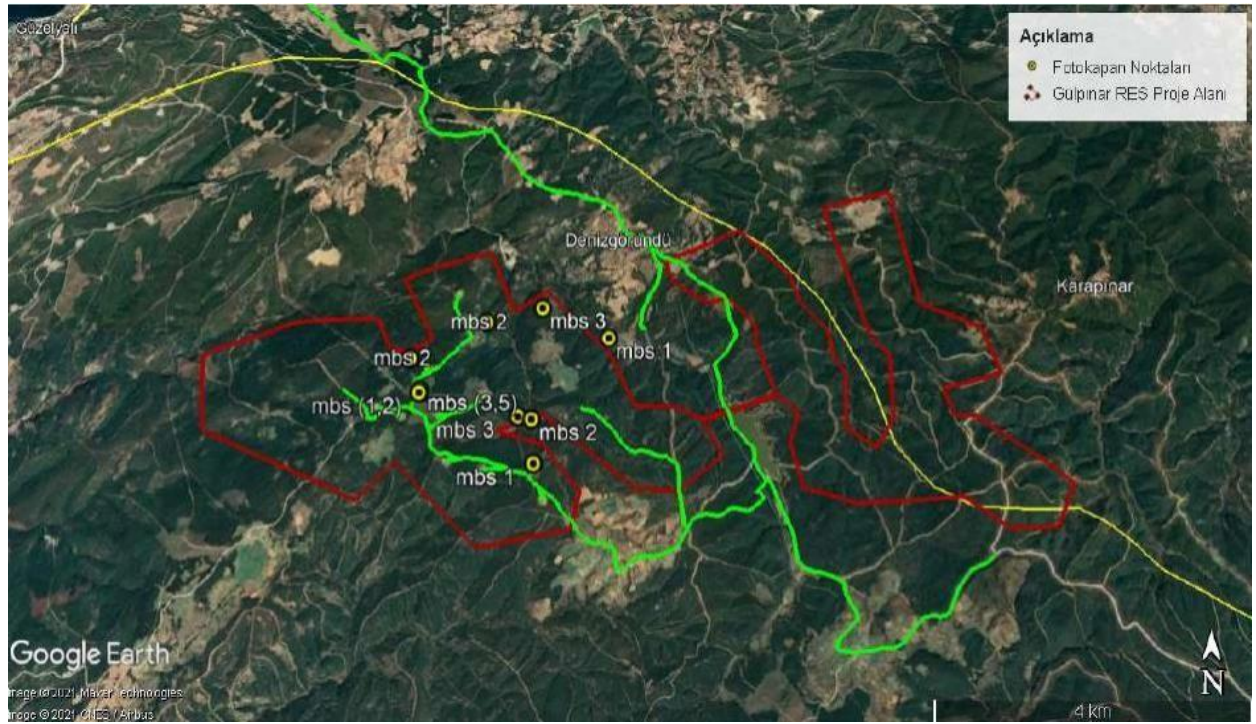


*Bat Device Station on Field*



*Bat Device Station on Field*





*Phototrap Stations in the Field*



*Phototrap Established in the Field*





*Phototrap Established in the Field*

## **Used and Results**

### **Birds**

For bird observations, a buffer zone with a radius of 500 meters is created around the turbines, and bird species within an area of up to 2 km around each observation point are observed and recorded. During the studies, the observed species and the number of individuals, their estimated heights, their distances to the turbines, the closest turbine point they pass (estimated), transit times and other observation information are recorded on observation cards. This information is transmitted to the General Directorate of Nature Conservation and National Parks and the process continues under their control. Images of the species and individuals displayed as a result of the monitoring are given below.



*White Storks*



*Fish eagle*





*Hawk*



*Snake Eagle*



*Black Stork*

## **Mammals and Reptiles**

Biodiversity monitoring is done in two ways: direct monitoring and indirect monitoring methodology.

In the direct monitoring methodology, it is the methodology in which the animal can be observed personally, such as live observation, checking with binoculars, shooting with a camera, shooting with a drone, detecting the animal with the help of a camera trap or with a skeleton.

Indirect monitoring methodology is the methodology in which species-identifying traces such as feces, footprints, tree friction marks, hair, nest structure, food residues are observed, which will help us identify the animal.

Both methodologies are used for the Gölpinar WPP project. The paths, valleys and water edges within the project area are investigated, and within the scope of the indirect monitoring methodology, the traces left by the animal such as footprints and feces are determined and the activity status of the region in terms of animals is understood. In the light of this data, direct monitoring methodology is also applied by installing a camera trap in the region and making live observations at appropriate times. Thus, it enables the collection and interpretation of information such as the detection, behavior, population estimates and health of terrestrial mammal species in the project area. This information is transmitted to the General Directorate of Nature Conservation and National Parks and the process continues under their control.





*Determinations Made Through Indirect Observation*



*Detections Made via Camera Trap (Karaca)*



*Detections Made via Camera Trap (Rock Marten)*



*Detections Made via Camera Trap (Fox)*



*Determinations Made Through Observation (Tortoise)*

## **Bats**

As for bats, monitoring studies are carried out in two main parts: field studies and office studies.

Field work; It is divided into 4 subheadings: static acoustic detector studies, mobile detector studies, roost scanning studies and carcass scanning studies.



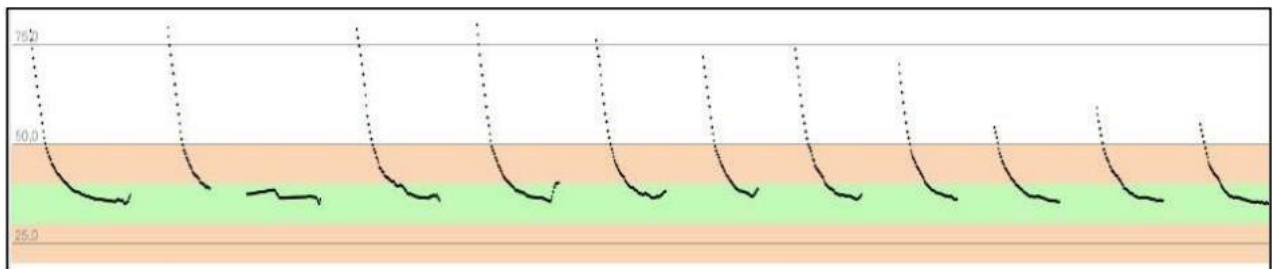
Office work is carried out under two subheadings: data analysis and reporting.

Acoustic studies provide advantages in monitoring. It allows species determination without capturing and stressing the animal. We set up static fixed detectors in certain areas and record from there, while the remaining areas are scanned with mobile detectors.

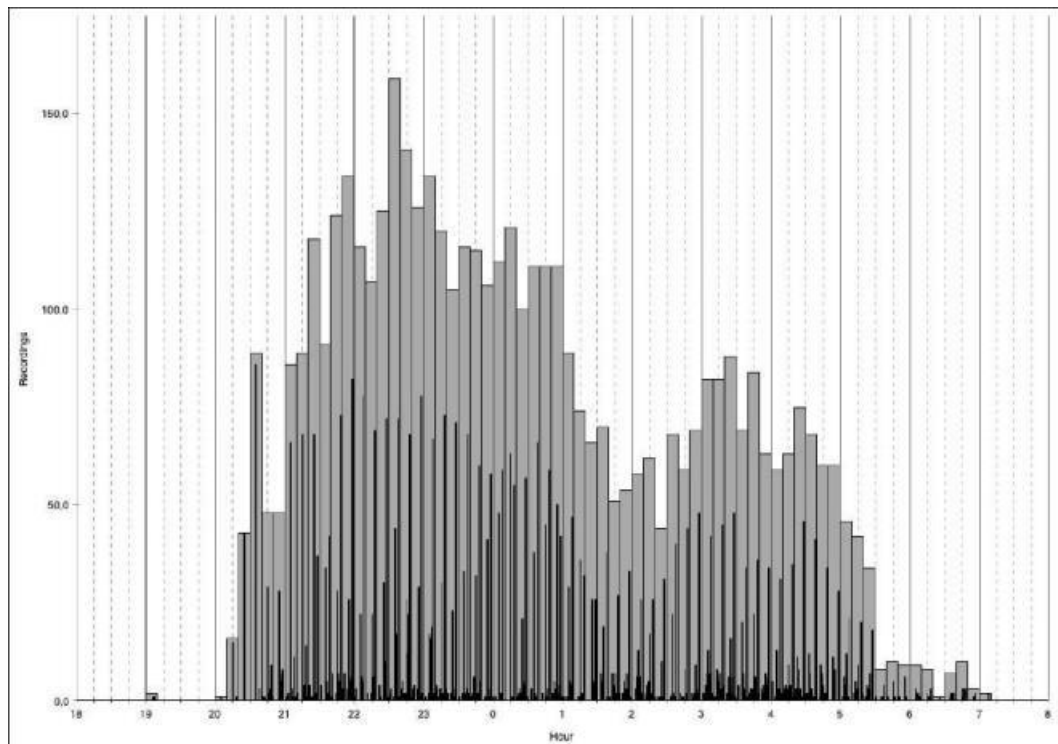
In roost scanning, areas such as tree holes, rock cracks, and roof gaps of man-made structures are scanned with an endoscope camera and mobile detector.

In the Gülpınar WPP project, before selecting the areas where static fixed detectors will be installed, past study data, literature records, information from the local people and the Nature Conservation National Parks Branch Directorate are obtained and this information is processed in the project area. Then, by visiting the project area with mobile detectors and combining the data obtained with this data, the most suitable fixed detector installation area is selected. The suitability of the area is kept up to date every time with checks made during the monitoring period. In addition, although there is no data, fixed detectors are placed in areas that contain suitable habitats for bats and continuous monitoring continues.

The acoustic sound data obtained is analyzed with analysis programs approved by international organizations and R programming is used. This information is transmitted to the General Directorate of Nature Conservation and National Parks and the process continues under their control.



*Bat Sound Graph Recorded with a Full Spectrum Recorder*



*Night Activity Graph of Bats in the Project Site*