

A Contemporary Study on Actual Status and Sustainability of Gökpınar Lake Nature Park, Sivas, Turkey

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ABSTRACT

Gökpınar Lake, with its natural beauty, is one of the most precious places in Sivas province of Turkey, and the World. Located in the Gürün district of Sivas province, Gökpınar Lake is one of Turkey's most important natural lakes. Gökpınar Lake was declared a Gökpınar Lake Nature Park on July 24, 2025, to protect its biological and ecological natural features. This contemporary study examines the actual status and sustainability of the Gökpınar Lake Nature Park, which requires meticulous protection. The Gökpınar Lake Nature Park covers an area of 11.39 hectares. Due to its location, Gökpınar Lake Nature Park is an important protected area where blue and green intertwine, possessing unique beauty, providing opportunities for public recreation and relaxation, and home to a wide variety of plant and animal species. Environmental legislation and standards should be developed, technical infrastructure should be improved, and environmental management should be strengthened, aiming for sustainability within the Gökpınar Lake Nature Park ecosystem. To ensure the rational use of Gökpınar Lake Nature Park, all activities and measures, including protection use, research, control, and monitoring, should be defined with a holistic approach. It is recommended that biological and ecological monitoring studies be conducted at regular intervals in Gökpınar Lake Nature Park. Because no two lakes and their surroundings are exactly alike, appropriate and unique integrated management strategies should be developed for Gökpınar Lake Nature Park.

Keywords: Awareness; Conservation; Drivers; Ecology; Gökpınar Lake; Monitoring; Nature Park; Protected Areas; Sustainability; Water; Quality.

1.0. Introduction

As a world progresses towards biological and ecological destruction as a result of human activities, nature conservation is gaining importance every day. At this critical juncture, protected areas are one of the most important and effective tools for preserving species and biodiversity. Furthermore, protected areas contribute significantly to the preservation of cultural, geological, historical, and landscape values. Therefore, increasing the number and area of protected areas to protect all these values is a widely accepted strategy [1]. Protected areas are highly valuable due to their cultural and socio-economic characteristics, as well as their biological diversity. Protected areas must be managed sustainably, observing the balance between conservation and use. Within protected areas, the use of natural resources within their administrative boundaries is permitted for a certain extent for recreational purposes, within the framework of strategies determined by a sustainable management approach. Dynamic and controlled decision-making regarding protected areas, supporting bio-ecologically based planning and implementation efforts, and basing usage decisions on the sustainable management of natural and cultural resource values increases the effectiveness of protected areas in terms of both quality and quantity. This helps prevent existing environmental problems and develop solutions to potential problems [2]. Protected areas are of great importance to countries due to their economic and ecological benefits.

Turkey is situated on a geographical area possessed by very few countries in the context of humanity's shared cultural, historical, and natural heritage. This brings with it significant responsibilities. Necessary legal regulations have been implemented in Turkey to protect areas containing natural and cultural heritage, and these areas are designated as "protected areas". National legislation in Turkey on this matter does not differ significantly in content from the laws of countries with successful conservation efforts. According to Turkish legislation, it is observed that

multiple legal regulations have been enacted with similar objectives regarding areas containing natural and cultural heritage of international and national value that require protection. Protected areas, which contain natural and cultural heritage or assets, are a whole and must be protected within this integrity [3].

While the concept of protected areas is not new, interest in establishing, declaring, and managing protected areas and nature parks with an integrated approach is rapidly growing globally. This rapidly growing interest stems from the conservation of biodiversity in protected areas and the anticipated economic benefits from tourism and other uses. Protected areas contribute to people's livelihoods, particularly at the local level, and provide a basis for biodiversity conservation [4].

1.1. Study Objectives

This contemporary study aims to identify and summarize the following specific objectives regarding the current situation of Gökpınar Lake Nature Park, which has protected area status in Turkey.

The specific objectives are:

- 1) To assess the current situation of Gökpınar Lake Nature Park,
- 2) To reveal its potential,
- 3) To assess the main problems in its development,
- 4) To assess its sustainability, and
- 5) To offer possible suggestions for its future direction.

2.0. Materials and Method

The Gökpınar Lake Nature Park, which forms the study material, is located within the boundaries of the Gürün district of Sivas province. Gürün is located in the western part of the Upper Euphrates Basin. A large portion of Gürün corresponds to high plateaus, while a small portion corresponds to lower plateaus. Furthermore, valley floors have developed along the Tohma River and its tributaries. Gürün district is situated on these valley floors. Gürün and its surrounding areas have a semi-arid, mesothermal continental climate. The Gürün consists of red-brown soils from the zonal group and alluvial and colluvial soils from the azonal group [5]. Gökpınar Lake, located in the Gürün district of Sivas province, is a natural lake formed over many years by alluvial deposition. Named after its clear water and sky-blue color, Gökpınar Lake is one of the most well-known, visited, and striking natural sites in Sivas province. Gökpınar Lake has the potential to be suitable for many activities, including hiking, camping, caravanning, flora and fauna observation, bird watching, diving, and nature tourism. Gökpınar Lake has a surface area of approximately 3000 square meters [6]. Gökpınar Lake is approximately 10 kilometers from the Gürün district center and approximately 140 kilometers from Sivas city center. Lake Gökpınar's elevation is 1,470 meters above sea level, and its water is fresh, cold, and clear. Gökpınar Lake resembles a natural aquarium. The depth in some parts of the lake reaches 17-20 meters. Another characteristic of the lake is that its color tone changes depending on the angle of the sun. In winter, because the water temperature of Gökpınar Lake remains constant at 11°C, its evaporating surface offers a visual feast. Gökpınar Lake, a freshwater lake, is notable for its aquatic life

and the biodiversity of its surroundings. The high oxygen level of the lake water is suitable for the survival of many fish and aquatic organisms, especially trout. Gökpınar Lake, which boils from the bottom of the rocks and occasionally from the bottom, consists of two parts. Rainbow trout (*Oncorhynchus mykiss* Walbaum, 1792) are farmed in the water of the lake, known as the Small Lake. The Large Lake is visited for tourism and diving [7].

Protected areas in Turkey are increasing daily both in number and area [8]. Nature parks, which are among the areas officially designated as protected areas, are conceptually defined as areas with valuable landscapes that maintain the integrity of the natural system, contain rich natural and cultural characteristics, and offer alternative recreational activities for users. As of 2025, there are 274 protected areas with nature park status in Turkey. According to the list of nature parks in Turkey, Gökpınar Lake Nature Park, declared in 2025, ranks 274th, or last [9]. According to the TDP (2023), increasing the number of protected areas in Turkey within the framework of sustainable development goals is included. In addition, the ratio of terrestrial protected areas to Turkey's total surface area is targeted to increase from 7.7 percent in 2022 to 10.0 percent by 2028 [10].

This contemporary study examines the actual status and sustainability of Lake Gökpınar Nature Park, declared a nature park by the President of the Republic of Turkey. The study examines previous studies on Gökpınar Lake. Then, the date of the Gökpınar Lake Nature Park's designation, its size, and other relevant information were collected and evaluated for sustainability.

3.0. Results and Discussion

Gökpınar Lake is a first-degree natural protected area. Landscaping work in Gökpınar Lake, which began in 2008, was completed in 2009, and the area was opened to the public. Gökpınar Lake, located in the Gürün district of Sivas Province, was designated the "Gökpınar Lake Nature Park" in accordance with Article 3 of the National Parks Law No. 2873. The Gökpınar Lake Nature Park was declared by Presidential Decree No. 10120 on July 24, 2025. The total area of the Gökpınar Lake Nature Park is 11.39 hectares [11].

Gökpınar Lake Nature Park is located in the Gürün district in the south of Sivas Province (Figure 1). Gürün is located at a key point where Turkey's Mediterranean, Eastern Anatolia, and Central Anatolia regions intersect. It is also located at a prime location in the Tohma Stream Basin. Located in a fourth-degree earthquake zone, Gürün has a mountainous and rugged surface. Surrounded by mountains, Gürün has a continental climate, but its microclimate characteristics are comparable to those of Sivas province [12].

The district of Gürün has an annual rainbow trout (*Oncorhynchus mykiss* Walbaum, 1792) production capacity of 442.5 tons. With this total rainbow trout production capacity, Gürün district ranks second in Sivas province [13]. Gökpınar Lake Nature Park and the surrounding rural settlements generally carry out agricultural activities, aquaculture, fishing and beekeeping. The surroundings of Gökpınar Lake Nature Park have an unparalleled biodiversity. Many aquatic organisms live in the fresh water of the lake. In addition, apart from these aquatic organisms that make up the biodiversity of the lake, there are also many wild animal and plant species living in the extensive wetlands and reeds around the lake. The dominant vegetation is steppe, hydrophytic and rocky vegetation [14]. Gökpınar Lake Nature Park's vegetation includes tree and shrub species such as Scots pine, willow, poplar,

and rose hip, as well as endemic and native species found in the region. In terms of fauna, the lake and its surroundings include aquatic birds such as the purple heron, gray heron, mallard, red falcon, and osprey, as well as mammals such as wolves, red foxes, brown bears, lynxes, and wild boars. There is a rich diversity of species, from reptiles such as *Montivipera albizona* (Sivas viper) to *Natrix tessellata* (water snake) and various amphibian species [6].



Figure 1. Gökpinar Lake Nature Park.

In recent years, the gradual decline in habitats, particularly in lakes, as a result of global warming is a major problem. Rapid temperature increases, in particular, pose a global threat. Global warming negatively impacts hydrobiological cycle systems and the existing balance between processes [15]. Gökpinar Lake Nature Park is hydrologically very rich due to the presence of karst water sources. The nature park area is rich in water for domestic use and irrigation, and the flow regimes of the water resources have not been seriously disturbed to date. The spring waters in the area are drinkable and freshwater. However, recently, Gökpinar Lake has become partially covered with algae due to its rich organic matter, posing a negative impact on its water quality [14]. Partial algae coverage of Gökpinar Lake, especially during the summer months, is a consequence of global warming and rich organic matter. While there is currently no serious threat, an ecosystem assessment report should be prepared for Gökpinar Lake. Algae removal could be implemented to improve Gökpinar Lake's water quality.

4.0. Conclusion

Gökpinar Lake Nature Park provides habitats for aquatic and terrestrial organisms. Gökpinar Lake Nature Park is significant for both its natural features and its clear, azure waters. Gökpinar Lake Nature Park is a popular national and international visitor destination. Home to natural and cultural heritage and living organisms, Gökpinar Lake Nature Park is a unified whole and must be protected as a whole. Consequently, Gökpinar Lake Nature Park should be protected by observing the balance between conservation and use, both at the basin level and throughout the park. Despite its protected nature park status, Gökpinar Lake is under threat from global warming and deterioration of water quality. Biological and ecological monitoring studies should be conducted at Gökpinar Lake Nature Park at regular intervals. Natural lakes are aquatic ecosystems that play a significant role in the world. Each lake's water has unique characteristics, and their uses with management objectives vary significantly. Therefore, actively

monitoring Gökpınar Lake Nature Park is crucial. Lakes are not created equally. Without a holistic management plan, it can quickly reach its bio-ecological thresholds. While plant and animal organisms may not be able to support the same amount of growth in a lake, people are increasingly using lakes for recreation. Intensive recreational activities in and around lakes can often lead to nutrient overload, nuisance algae growth, and other water quality problems.

Located within the borders of Sivas province, Gökpınar Lake Nature Park is among the most beautiful nature parks in the world and in Turkey. It truly deserves its place among the most beautiful nature parks in Turkey and Sivas province. Gökpınar Lake Nature Park is rich in oxygen. It displays all shades of blue and green in spring, summer, autumn, and winter. The park offers a wide variety of activities, including nature walks, cycling tours, and photography. The public's interest in and demand for tourism and recreational activities in Gökpınar Lake Nature Park is increasing day by day. As a result, Gökpınar Lake Nature Park has attained a status as an effective and widespread tool in meeting recreational needs both globally and in Türkiye. Tourism and recreational activities in Gökpınar Lake Nature Park justify the protection of this area. Therefore, the use and protection of Gökpınar Lake Nature Park should be ensured without conflicting with its natural and cultural resource values. Gökpınar Lake Nature Park should be supported by aesthetically pleasing infrastructure and equipment designed with materials that are in harmony with nature. Tourism and recreational activities in Gökpınar Lake Nature Park should be planned in a way that is compatible with natural and cultural values. In addition, Gökpınar Lake Nature Park should include signage and activities to raise awareness of nature conservation among its visitors. Existing and newly planned tourism and recreation areas within Gökpınar Lake Nature Park should be designed to meet these needs and demands, and structured within a balanced framework of conservation and utilization. To this end, the opinions of multidisciplinary experts from various professional groups should be sought. Public participation should be ensured in all activities and projects within Gökpınar Lake Nature Park. This will contribute to the better promotion, protection, and utilization of Gökpınar Lake Nature Park.

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