

20 Years of the Nature Conservation Centre

Nature Conservation Centre – 20th Anniversary Book

Nature Conservation Centre, Ankara, Türkiye

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Ankara, 2024

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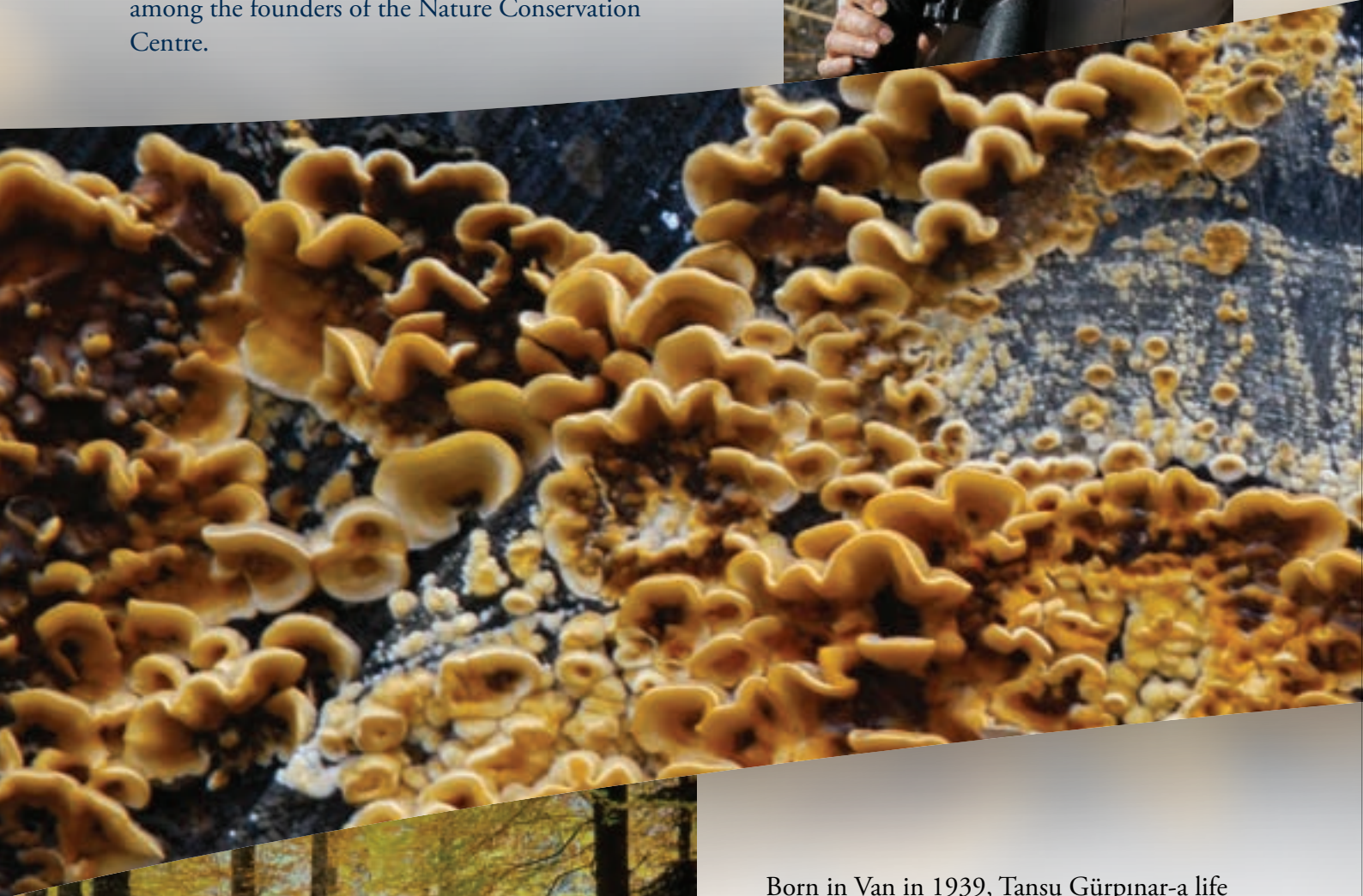
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We extend our heartfelt thanks to all our companions who have contributed to the 20 years of the Nature Conservation Centre and to this publication-through design, photography, and all forms of content.

20 Years of the Nature Conservation Centre

In Memoriam

Tansu Gürpınar was one of the foremost pioneers of nature conservation in our country and a leading figure in the environmental movement. He was also among the founders of the Nature Conservation Centre.



Born in Van in 1939, Tansu Gürpınar-a life scientist and geoscientist-began working at the General Directorate of National Parks in 1966, leading groundbreaking efforts in nature conservation across various state institutions and non-governmental organizations. He played a key role in the establishment of environmental NGOs and in training generations of conservationists in Türkiye.

A doyen of nature photography, he also contributed to numerous publications and exhibitions focused on nature conservation. We lost Tansu Gürpınar in 2023, but as one of DKM's founders and a guiding light in our shared mission, his memory will always stay with us.

Photographs: ©Tansu Gürpınar



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Message from the Board of Trustees and the Board of Directors

A photograph of a person walking away from the camera on a rocky, sparsely vegetated hillside. The person is wearing a light-colored shirt and dark pants. In the background, there is a vast, open landscape with rolling hills and a body of water under a sky with soft, warm light, suggesting sunset or sunrise. A large, stylized, light-colored spiral graphic is visible in the upper left corner of the page.

We are celebrating our 20th anniversary, and we are still as excited and proud as we were on the very first day.

In 2004, as a non-governmental organization formed by academics, nature conservationists, artists, businesspeople, and researchers, we set out to carry out studies and practices rooted in conservation biology-offering alternatives to classical conservation approaches-for the conservation of biodiversity in and around Türkiye, as well as the sustainable management and rational use of natural resources. We have never strayed from scientific foundations.

Today, we are proud to have built a competent and experienced technical capacity in the fields of sustainable development and natural resource management through numerous projects and collaborations with international organizations, the public sector, civil society, and private entities.



We continue with the same enthusiasm and determination that we had at the beginning—working to integrate biodiversity considerations into production processes in sectors such as agriculture, forestry, urban development, tourism, and energy. Our focus remains on conservation biology, mainstreaming this perspective, and contributing to the development of national policies.

We would like to extend our heartfelt thanks to our expert and dynamic team and to our partners for their invaluable efforts and ongoing support.



We address the climate crisis alongside the biodiversity crisis. Using geographic information systems-based modelling, we work to reduce the negative impacts of climate change on species, natural ecosystems, and the communities that depend on them, while enhancing resilience. We implement adaptation efforts that integrate nature-based solutions and ecosystem services.

We design and implement training programs tailored to target audiences and carry out user-oriented capacity-building activities aligned with our mission. Alongside all of this, we are also excited about our work in identifying conservation priorities for species and ecosystems in Türkiye and in preparing national red lists for various groups.

How and Why We Started?



The adventure of the Nature Conservation

Centre is very similar to the broader story of nature conservation itself. Our journey, which began with a focus on biodiversity, species, and protected areas, quickly expanded to include what was once called natural resource management and is now often referred to as sustainable development. As we set out with the aim of conserving biodiversity, we gradually found ourselves working across different sectors. Looking back over the past 20 years, we see that this expansion was not the result of a pre-set plan, but rather a natural progression born from continually asking: “What can we do to achieve more impact?” We believed-and still believe-that this approach is the most effective way to contribute to the conservation of biodiversity in a rapidly changing world.

The 21st century is often referred to as the Anthropocene Era. Human impact on the planet, and what we produce, now outweighs what nature itself creates. The global mass of plastic, concrete, asphalt, and similar materials has surpassed the mass of all living biomass. In response, nature conservation has grown to embrace a more inclusive framework: one that seeks to conserve biodiversity not only in protected areas, but also in production landscapes by transforming production systems to make them more nature-friendly. Many global conservation organizations have followed a similar path.

While protected areas and species conservation remain core and compelling pillars of biodiversity conservation, we know that more is needed. Experts consistently highlight habitat destruction and degradation as the



Transforming institutions and solving long-standing issues cannot be achieved overnight. It requires long-term strategies, patience, and a commitment to avoid short-term, populist approaches. This mindset forms the foundation of DKM's work.

Of course, over these 20 years, there have been things we were unable to accomplish-and others we wish we had done more of. That, too, is part of the nature of conservation. Still, grounded in scientific approaches, we believe we have contributed exemplary work for the conservation of biodiversity in collaboration with relevant government institutions, United Nations organizations, and the private sector.

We are deeply grateful to all the government agencies, private companies, academic institutions, and international organizations that have supported and partnered with us along the way.

leading drivers of biodiversity loss. Even small improvements in the management of the millions of hectares of agricultural fields and rangelands used for agricultural production could have widespread, positive effects. The same principle applies to many other sectors; forestry, fisheries, settlements, energy, and water.

However, transforming these complex systems-each involving hundreds of experts and deep economic and political ties-is no simple task. It begins with thorough sectoral analyses. We must identify shortcomings and their underlying causes, and then develop scientifically sound strategies to address them. Above all, cooperation is essential.

In our experience, particularly in forestry and agriculture, we've found that the experts and managers in these institutions are often just as concerned about the problems as we are, and equally eager to find solutions.



Our Approach



The Nature Conservation Centre (DKM) was established in 2004 for the effective conservation of biodiversity and sustainable management of natural resources.

Since its establishment, DKM focuses on developing new tools and methods for the conservation of biodiversity, sustainable use and adaptation to climate change by following the practices in different parts of the world.

In coordination with public and private sector partners, DKM presents examples of sustainable management and wise use of natural resources as alternatives to classical conservation approaches.





DKM's missions are to:

- Achieve wide understanding and application of the principles of conservation science in nature conservation practices,
- Mainstream biodiversity conservation in all aspects of public policies related to resource management,
- Conduct studies to increase the resilience of the socio-ecological systems for climate change adaptation,
- Increase the institutional capacities of the public and private sectors to deliver long-term and effective conservation.

DKM:

- Creates solutions for biodiversity conservation and natural resource management through comprehensive and innovative applications based on conservation biology,
- Works with governmental bodies in integrating conservation biology to forestry, agriculture and urbanization sectors, from policy level to practice,
- Carries out adaptation studies to reduce the negative impacts of climate change and increase the resilience of species, natural ecosystems and the segments of society that depend on these ecosystems,
- Aims to provide the necessary infrastructure for these topics.

Photographs: ©DKM archive



Moving Forward Together (Collaborations and Partnerships)



The main purpose of DKM is to develop solutions based on scientific approaches to conservation and natural resource management problems. DKM, with its highly experienced team of experts, cooperates with many national and international institutions and offers the most advanced conservation outputs in various fields.



Some of the key partners and collaborating institutions are: Butterfly Conservation Europe (BCE), Food and Agriculture Organization of the United Nations (FAO), United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), General Directorate of Agricultural Reform, General Directorate of Forestry, General Directorate of Nature Conservation and National Parks, International Union for Conservation of Nature (IUCN, Multinational Organization), Middle East Technical University (METU), Water Solutions Lab (Multinational Organization) and Yale University School of the Environment.

DKM is also an active member of different national and international networks, including the International Union for Conservation of Nature (IUCN), IUCN National Committee, Butterfly Conservation Europe (BCE), Eurosite, Nature4Cities Network, Climate Action Network Europe (CAN-Europe), Ecosystem Services Partnership (ESP) and Global Soil Partnership (GSP).

DKM also collaborates with the private sector to support progress toward the United Nations Sustainable Development Goals. Partnering companies include Unilever, Coca-Cola, PepsiCo, Yves Rocher, BP, TANAP, the TurkAKIm Gas Pipeline, Ford Otosan, Eczacıbaşı, Koç Holding, Demir Export, and Arçelik. Within this scope, DKM supports private sector companies in assessing their impacts on biodiversity and ecosystems through various sustainability indices, reducing and effectively managing these impacts, and setting concrete targets and performance metrics to better manage risks related to natural resources.



Prof. Dr. C. CAN BİLGİN

METU Department of Biology – Biodiversity and
Conservation Laboratory
DKM Scientific Committee Member

I'm not sure I can look at Nature Conservation Centre (DKM) from an "outsider's" perspective - I've been closely involved with DKM for many years, and both my wife and daughter have worked here. Thanks to this deep connection, I've had the privilege of witnessing DKM's 20-year journey up close.

In the 1980s and 1990s, I served as a founder, manager, or volunteer in some of Türkiye's most established nature conservation organizations, including TTKD (Turkish Association for the Protection of Nature), DHKD (Natural Life Protection Society), and DAD (Nature Research Society). Each of these organizations strived to protect the country's natural heritage in line with its own mission. However, I believe DKM has three distinctive qualities that set it apart.

First, DKM has consistently grounded its projects in sound science. It has done so through a team of experts in ecology and conservation biology, and by ensuring the scientific defensibility of its methods and approaches.

Second, DKM has always played an innovative and pioneering role in nature conservation. In areas such as ecological restoration, systematic conservation planning, nature-based solutions, and spatial data analysis, DKM has at times taken on a leading role not only in Türkiye but internationally.

Third, rather than adopting a defensive or confrontational stance, DKM has pursued a strategy of persuasion and consensus-building - particularly within the public sector. This approach has proven far more effective than expected, especially in influencing positive change in the agriculture and forestry sectors, and has earned DKM its well-deserved reputation.

Looking back today, I'm pleased to see that it has been an incredibly productive and fulfilling twenty years. I am confident that DKM will continue to serve as a school for nature conservation with the same commitment in the years to come. Here's to another 20 great years!



**Prof. Dr. CHADWICK DEARING
OLIVER**

Pinchot Professor at Yale University

– What is the first thing that comes to mind when you think of DKM?

When I hear DKM, I think of a trustable source of education, information, analyses, and creative solutions about the environment and resources. DKM is very effective by focusing on positive environmental and resource outcomes with the industrial, environmental, public service, and social sectors of society. Their approach contrasts with the strident advocacy and confrontation of some other organizations.

– Can you suggest a slogan for DKM?

DKM seeks environmental and resource solutions through knowledge, education, and technologies—not strident advocacy and confrontation.

– Is there anything you'd like to say about DKM's 20th anniversary?

Congratulations to DKM on its 20th anniversary for showing that environmental and resource successes can be achieved through science, education, analyses, and technologies.

How does DKM Work?

Our Programs and What We Try to Implement





DKM views nature conservation as a multidisciplinary field that encompasses social, economic, and political dimensions. While biodiversity remains at the core of its work, DKM designs and implements solutions across a range of issues with a deep understanding of the interconnections between these elements.

Photographs: ©DKM archive



Themes and Work Programs

DKM works on 7 main strategic themes:



1. Biodiversity: Species, Ecosystems and Ecological Processes



2. Land, Water and Food Systems



3. Climate Change



4. Systematic Conservation Planning



5. Nature Education



6. Spatial Data Analysis



7. Pollution and Recycling

Photographs: ©Deniz Özüt



1. Biodiversity: Species, Ecosystems and Ecological Processes

DKM:

- Focuses on species, ecosystems, and ecosystem services as an interface between biodiversity conservation and sustainable development,
- Identifies the internal dynamics of how species and ecosystems function and how external factors shape these dynamics,
- Designs interventions to ensure the continuity of ecological and evolutionary processes,
- Believes that biodiversity should be handled together with the social and economic factors for the long-term and *in situ* conservation success, and this should be realized through the benefits and services provided by biodiversity.

DKM produces knowledge that forms the foundation of species conservation efforts through studies such as identifying conservation priorities for species and ecosystems in Türkiye, assessing and managing the negative impacts of invasive alien species, and preparing national red lists for various species groups. At the implementation stage, it develops conservation strategies and projects informed by this knowledge base.





2. Land, Water and Food Systems

Many of the threats faced by species and ecosystems stem from the over-exploitation of land and water resources. DKM works to:

- Develop improved management systems for the conservation of land and water,
- Establish good practices, and
- Design integrated solutions that consider environmental, economic, and social factors.

Accordingly, two of the most prominent areas of application are agriculture and livestock production. Biodiversity plays a central role in ensuring the sustainability of the agriculture sector, particularly through genetic resources and ecosystem services. DKM focuses on integrating this perspective into agriculture, promoting production systems that recognize the value of ecosystem services, and generating practical examples in this area.





3. Climate Change

Although the impact of climate change on ecosystems has been evident for some time, its sharp consequences on our lives and the economy have only recently begun to be fully recognized. To address this, policies that mitigate the effects of climate change must be adopted urgently, and efforts to ensure adaptation must be prioritized.

Focusing specifically on climate change adaptation, DKM seeks to strengthen the resilience of socio-ecological systems through various approaches, including Nature-based Solutions (NbS). The initial steps in this direction include:

- Identifying potential impacts and vulnerabilities caused by climate change,
- Thematic and spatial prioritization of these vulnerabilities,
- Developing multi-sectoral solutions.



Photographs: ©DKM archive



4. Systematic Conservation Planning

Nature conservation, which gained momentum with the rise of the environmental movement in the 1960s, initially focused on the establishment of strictly defined protected areas. Over time, however, the approach evolved toward developing solutions that integrate conservation with sustainable development.

Systematic Conservation Planning (SCP), developed in the late 1980s, is a goal-oriented, data-driven spatial decision support tool that offers a holistic framework for addressing conservation challenges. It incorporates ecological, social, and economic factors in an integrated manner.

Within the SCP approach, biological and socio-economic components are evaluated together, enabling the development of optimal solutions that balance conservation goals with sustainable development needs. This objective and goal-based decision-making framework also provides a foundation for participatory processes by accommodating diverse perspectives and priorities.



Photographs: ©DKM archive



5. Nature Education

Nature is a playful companion, a wise teacher, and a classroom filled with ever-changing, unique opportunities. Time spent outdoors is not only enjoyable-it also fosters important life skills and supports physical, mental, and spiritual growth. When introduced at an early age, nature education evolves into lifelong learning through ecological literacy.

DKM:

- Develops and implements projects that support the formation and growth of ecological literacy through national and international partnerships,
- Trains Nature Hosts,
- Organizes Bioblitz, an annual citizen science event held on the International Day for Biological Diversity,
- Designs and delivers nature education programs, workshops, and learning materials for participants of all ages,
- Produces publications to support ecological literacy.



Photographs: ©DKM archive



6. Spatial Data Analysis

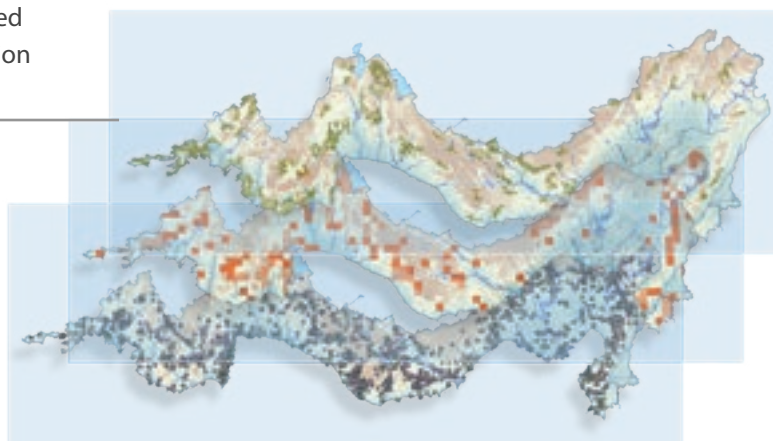
Ecological processes and all threats to biodiversity have spatial and temporal dimensions. To ensure long-term sustainable use of natural resources and effective biodiversity conservation, it is critical to integrate all planning components into a spatial context. For this reason, the DKM team has developed expertise in Geographic Information Systems (GIS) and modelling, employing a range of software tools for spatial analysis.

DKM:

- Uses software such as ArcGIS, R, Python, and QGIS to manage, analyse, and visualize spatial data,
- Analyses remote sensing images using Google Earth Engine (GEE) and other cloud-based tools to assess land cover status and detect change,
- Places Species Distribution Modelling (SDM) at the core of most biodiversity projects, using Maxent software and the Biomod package for SDM,
- Uses MARXAN software in Systematic Conservation Planning projects to identify optimized Priority Conservation Areas,
- Conducts climate change risk and vulnerability analyses.

In addition, DKM team has developed tailored tools to meet the specific needs and outputs of various projects, aiming to build decision support systems. DKM contributes to shaping the national infrastructure for spatial analysis by both diversifying its analytical tools and training experts in the field-producing knowledge with the potential to guide broader efforts.

Figure 1. Different layers used in ICC (Important Conservation Components) studies



7. Pollution and Recycling

DKM seeks participatory and innovative solutions to pollution, one of the greatest global threats to biodiversity and natural resources.

DKM:

- Aims to manage pollution at its source. Based on the principle that interventions become inefficient once pollutants reach inland waters or seas, DKM develops solutions to improve waste management and prevent pollution before it occurs,
- Strives to create innovative, community-based solutions for pollution control and recycling,
- Places strong emphasis on training and practical applications as key components of its work in this area.

In these efforts, DKM focuses particularly on reducing pollution-especially plastic waste-reaching inland waters and seas, through innovative approaches, technological tools, and public participation. DKM has implemented local and regional projects across various parts of Türkiye, addressing diverse goals such as combating invasive alien species, providing treatment services after natural disasters (e.g., earthquakes), establishing river-based waste collection systems, and supporting community-based waste collector networks.

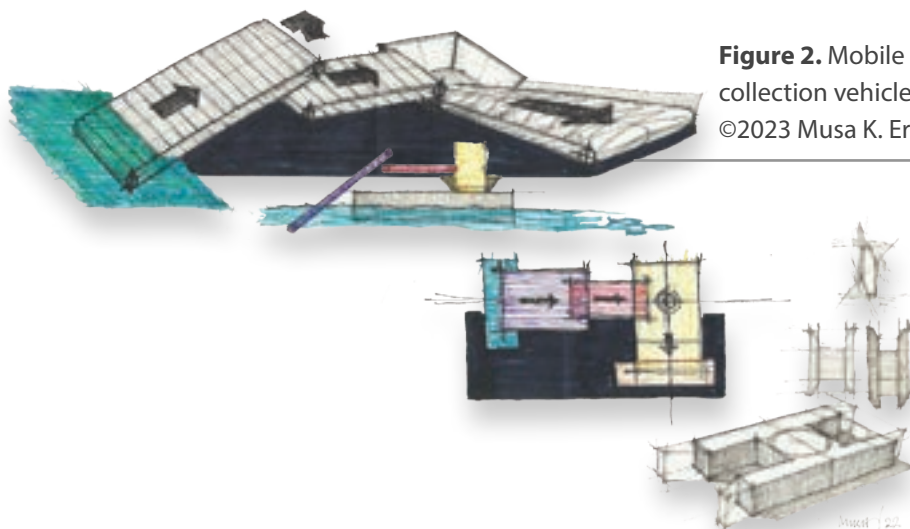


Figure 2. Mobile waste collection vehicle design
©2023 Musa K. Erdoğan



Dr. BANU GÜNDOĞAN

Middle East Technical University

– What comes to your mind when you think of DKM?

The first word that comes to mind when I think of DKM is “academy.” In mythology, the Academy was originally an olive grove near the Acropolis, which was gifted to the hero Akademos; Plato taught his students under the olive trees in this garden. DKM is also an academy-one where knowledge is produced, shared, learned, and put into practice. It is a dynamic academy where well-intentioned, well-informed experts who respect both nature and people come together.

– Can you suggest a slogan for DKM?

Let's walk with nature in the footsteps of science

– What would you like to say about DKM's 20th anniversary?

Since its foundation, DKM has always been visionary and innovative in the field of nature conservation. Not only in Türkiye, but globally, it has followed scientific approaches to biodiversity conservation and sustainable natural resource management-contributing significantly through both research and practical applications. Long before the discourse and methods around nature conservation became “fashionable,” DKM persistently and patiently worked to promote models rooted in scientific understanding. Now, in its 20th year, it stands as a mature and generous “sage.” I believe it will continue to guide individuals and institutions with this enduring wisdom. Long may it thrive.



Dr. AYŞEGÜL SELİŞİK

Food and Agriculture Organization of the United Nations
(FAO)

– What comes to mind when you think of DKM?

When we think of the Nature Conservation Centre, what first comes to mind is a non-governmental organization that has achieved remarkable success. We think of DKM as a trusted, expert partner with whom we have built a strong, long-term collaboration, and our dedicated colleagues working on projects across Türkiye-colleagues whose efforts to protect nature and biodiversity give us hope for the future.

– Can you suggest a slogan for DKM?

“One step for the future of a thousand species.”

“Let’s protect today to live tomorrow.”

“Let’s protect Türkiye’s natural heritage together.”

“From the mountains to the reedbeds: DKM is protecting Türkiye’s future.”

– What would you like to say about DKM’s 20th anniversary?

Twenty years is a meaningful span of time-enough to assess both where an organization has come from and where it is headed. We have collaborated with the Nature Conservation Centre for many years, and the care, dedication, and ownership shown by DKM’s team in every project we’ve undertaken together deserve the highest appreciation. With its work and vision over these two decades, DKM continues to keep alive the hope for a more livable Türkiye and a better world-not just for us, but for future generations.

What Have We Achieved?





With its experienced team and extensive network, DKM has achieved numerous conservation successes and developed innovative approaches and tools, ranging from grassroots initiatives to policy-level contributions:

Photographs: ©DKM archive



Systematic Conservation Planning

How can we select conservation areas more objectively and maximize the return on our conservation investments?

In the early 2000s, Türkiye experienced a clash of different selection approaches for priority conservation areas: species-based Key Biodiversity Areas, holistic Systematic Conservation Planning, and Natura 2000, based on the European Union (EU) *acquis*.



DKM is one of the leading organizations in Türkiye that applies and further develops the Systematic Conservation Planning (SCP) approach—a decision support tool for the conservation of biodiversity and the sustainable use of natural resources. SCP is a spatial planning methodology that emphasizes efficiency and integrates different datasets using objective criteria to guide conservation action.

DKM also contributes to global discussions on SCP through its international network of scientists and expert groups, sharing its experience in developing and applying SCP tools on an international scale.

With the support and partnership of the General Directorate of Forestry and the General Directorate of Nature Conservation and National Parks in Türkiye, DKM has successfully carried out SCP activities across most of the country's terrestrial area (approximately 40 million hectares), including the Mediterranean, Southeastern Anatolia, Aegean, Lower Caucasus, Eastern Anatolia, and Black Sea regions. DKM has conducted extensive biodiversity research using stratified random sampling procedures developed in a GIS environment for different species groups such as birds, plants, reptiles, amphibians, butterflies, damselflies, mammals, and freshwater fish. DKM has also designed and implemented tailor-made training programs to strengthen the technical knowledge of the Ministry of Agriculture and Forestry on SCP.

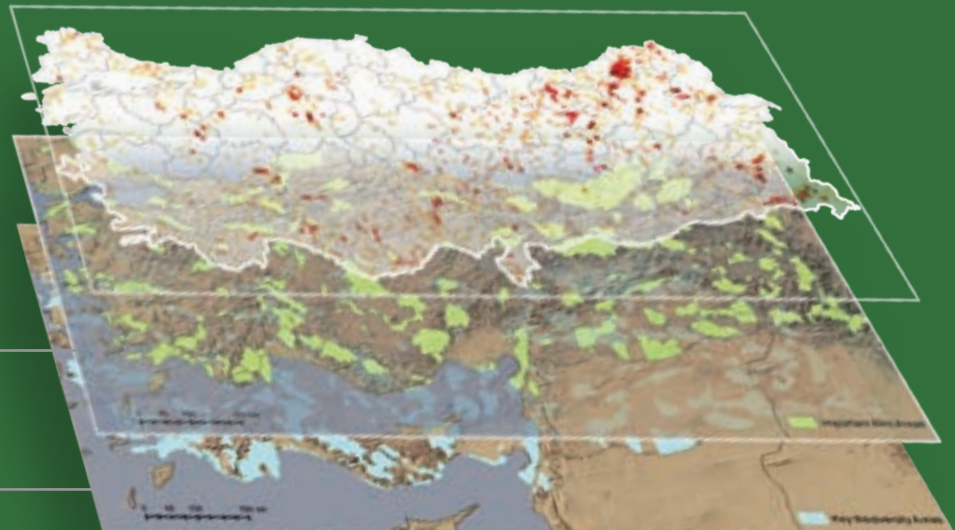
In this framework, DKM designed and coordinated systematic surveys, mapped biodiversity elements (species, habitats, ecological and evolutionary processes) in accordance with EU Directives, trained field experts in systematic data collection, modelled species distributions, and conducted optimization studies to identify priority conservation areas. DKM has prepared conservation and sustainable natural resource management guidelines for use by relevant institutions, which are expected to form the basis for future conservation strategies in these priority areas. The importance of this approach is further highlighted by the official selection of SCP by the Ministry of Agriculture and Forestry as the methodology for identifying potential Natura 2000 areas in Türkiye.

Photographs: ©DKM archive

Figure 3. Different layers used in ICC studies

Important Plant Areas

Key Biodiversity Areas



©Deniz Özü

Building a National Biodiversity Information System

Monitoring Türkiye's Biodiversity and Protected Areas

The long-standing expertise of Nature Conservation Centre professionals in biodiversity and data-based assessments led to a request for technical support from DKM in the development of a national protected area system and a national biodiversity database.



©Ahmet Duran

Glycyrrhiza flavescens subsp. *antalyensis*

This work was carried out as part of a large-scale GEF-II (Global Environment Facility) project, implemented by the then Ministry of Environment and Forestry. During the project, DKM contributed to the creation of the Noah's Ark National Biodiversity Database and helped define the necessary infrastructure for the establishment of a national protected area system based on the Systematic Conservation Planning approach. In this context, DKM also provided various training programs for the Ministry staff.



©Ali Onur Sayar

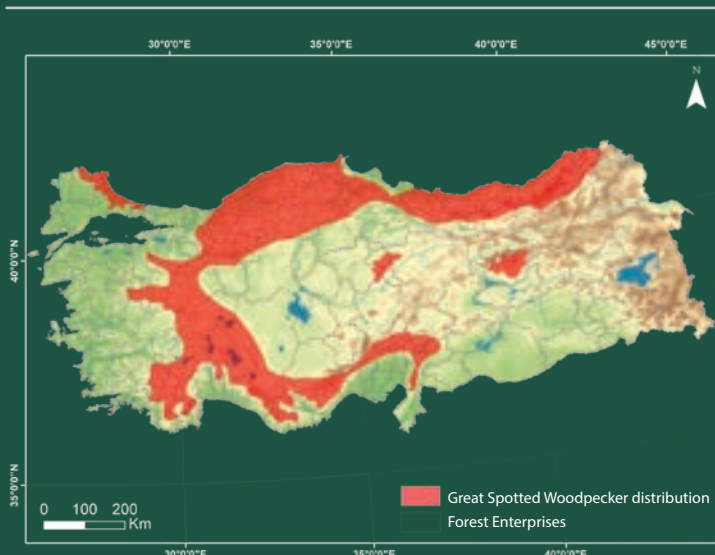
Red Deer (*Cervus elaphus*)



DKM is among the leading non-governmental organizations in Türkiye working closely with the Biodiversity Monitoring Unit, the Department of Biological Diversity under the General Directorate of Nature Conservation and National Parks, and the Department of Biological Diversity of the General Directorate of Forestry. It supported these institutions through numerous projects and initiatives aimed at the effective conservation of Türkiye's biodiversity. For example, DKM:

- Transferred all data generated through regional SCP studies and forest biodiversity inventories into the National Biodiversity Database,
- Conducted species prioritization and assessment studies for all plant, mammal, amphibian, reptile, bird, butterfly, ant, bee, and grasshopper species in Türkiye,
- Prepared the first National Red List for Butterflies,
- Provided technical assistance for the preparation of national red lists for marine and freshwater fish species,
- Initiated the preparation process of the National Red List of Endemic Plants of Türkiye and began preparations for national red lists of other species groups.

Figure 4. Distribution of Great Spotted Woodpecker (*Dendrocopos major*) in Türkiye



Great Spotted Woodpecker (*Dendrocopos major*)



Eastern Euphydryas
(*Euphydryas orientalis*)

Building a National Butterfly Conservation System

Conserving butterflies at the national scale

As the Turkish representative of Butterfly Conservation Europe (BCE), DKM has played a pioneering role in developing a national system for monitoring and conserving of butterflies in Türkiye.



Körahmet Valley, Artvin



False Apollo (*Archon apollinus*)

The first national Red List and conservation strategy for butterflies in Türkiye was prepared by DKM in 2011, in collaboration with a team of experts from Türkiye and Europe. This Red List marked the first national assessment in the country to apply the IUCN Red List Categories and Criteria. The study was fully digitized and grounded in objective assessments.

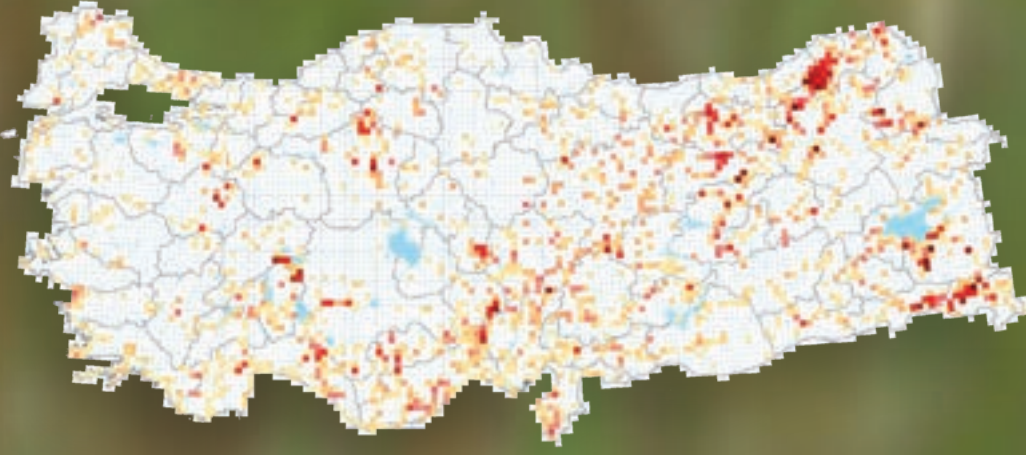


Figure 5. Butterfly species richness in Türkiye. Each dot represents a 10x10 km UTM grid square; darker colors indicate higher species counts.

DKM developed protocols for systematic butterfly surveys, trained observers in standardized data collection methods, conducted field work to address data gaps, assessed species status, and compiled all findings into a national database. Using the Systematic Conservation Planning (SCP) approach, DKM also identified Türkiye's Prime Butterfly Areas (PBAs).



As the only study in Türkiye prepared in line with the latest IUCN categories and criteria, The Red Book of Butterflies in Türkiye serves as a roadmap for future national red list assessments across different taxonomic groups.



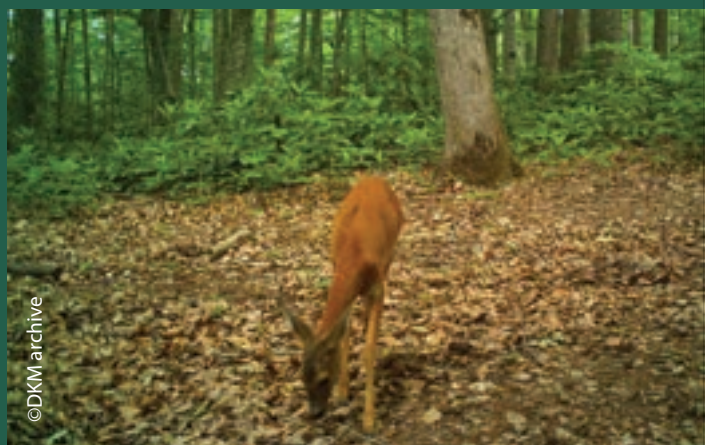
Photographs: ©Hilary ve Geoff Welch



International Collaboration for Biodiversity Conservation

Solving conservation challenges through international cooperation

DKM experts represented non-governmental organizations on behalf of Türkiye at the Caucasus Ecoregion Council. The Council plays a central role in the Caucasus Ecoregion by bringing together representatives from governments and non-governmental organizations (NGOs) across countries to discuss conservation issues at the regional scale and to establish a shared foundation for addressing cross-border challenges collaboratively. One of the Council's key achievements was the development of the Ecoregion Conservation Plan for the Caucasus.



DKM worked with the International Union for Conservation of Nature (IUCN) to prepare the National Species Conservation Strategy for the General Directorate of Nature Conservation and National Parks. The Turkish strategy was one of the first national-level implementations of IUCN's Global Species Action Plan (GSAP) and has been internationally recognized by IUCN as a model example.

Following the Integration of Ecosystem Services in Water Management study organized in 2018, DKM collaborated with IUCN, the International Water Management Institute (IWMI), and the New York City Research Unit to develop the Nature-based Solutions in Water Management Catalogue.

As part of the Sustainable Cities Program, DKM is working with IUCN and the İstanbul Regional Directorate of Forestry to identify the ecosystem services provided by the Northern Marmara Forests and integrate them into urban and regional planning processes.

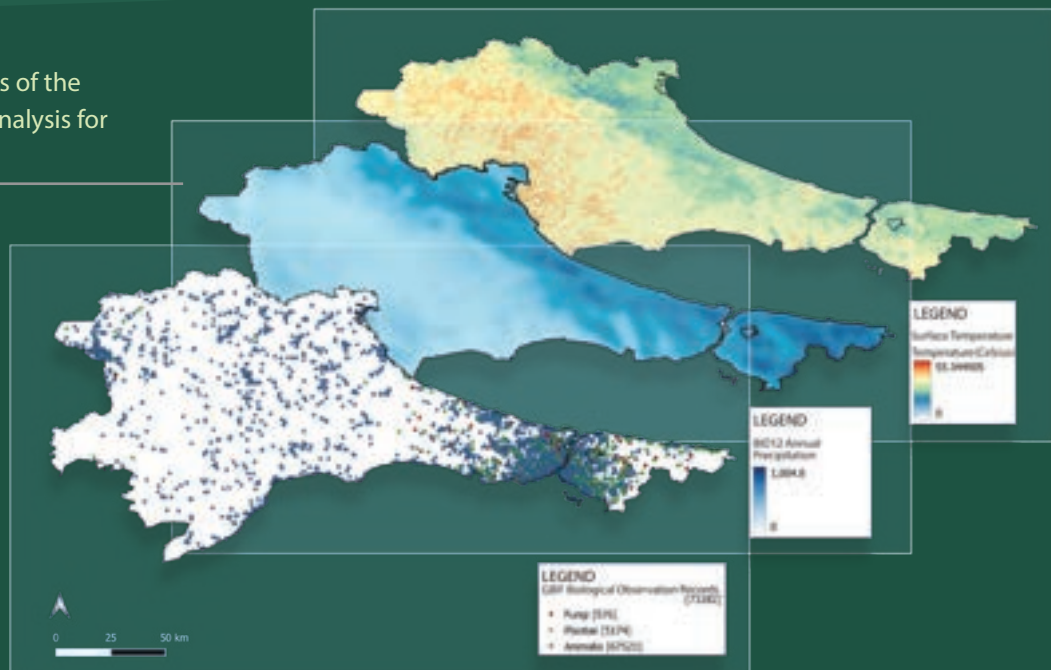
© Ahmet Karataş



Robert's Snow Vole (*Chionomys roberti*)

Between 2014 and 2018, DKM and the Yale University School of the Environment collaborated on sustainable forest management, conservation of forest biodiversity, and the integration of ecosystem services into forestry planning.

Figure 6. Components of the climate change risk analysis for İstanbul's forests





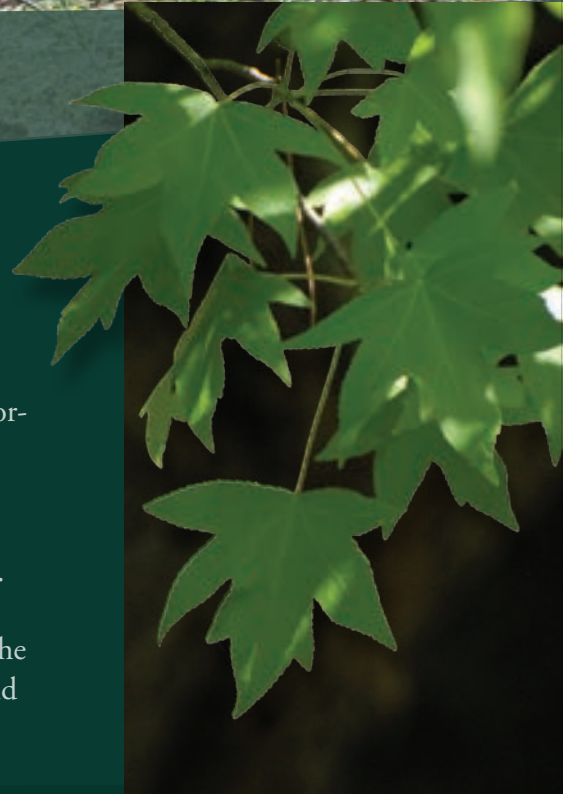
Eurasian Lynx (*Lynx lynx*)

Building a National System for Conservation of Forest Biodiversity

Using science effectively and working together is key to develop triumphant solutions

Following the Systematic Conservation Planning study conducted in the Anatolian steppes, DKM experts focused on developing an effective sector-based model for conserving the identified priority areas. Since most of these areas lie within forest ecosystems, DKM initiated developing a procedure applicable to all forest areas of conservation importance and approached the General Directorate of Forestry (GDF) for collaboration.

After years of work, dialogue, and joint action, experts from DKM and the GDF developed a methodology for identifying conservation priorities and forestry practice principles in areas of high biodiversity.



Ferula coskunii

The core of the study involved identifying focal species and key ecological processes within each forest management directorate (243 Forest Management Directorates across Türkiye). The methodology included the following key components:

- Designing and coordinating systematic research,
- Mapping forest biodiversity elements (species and habitat types) in accordance with EU Directives,
- Modelling the distribution of focal species, and
- Defining different zones and areas for silvicultural activities using the complementarity principle of the SCP approach.

While numerous procedures and planning tools for forest ecosystem conservation have been developed globally by various institutions and scientists, this study is unique as the only one officially adopted by the national authority responsible for forest management and implemented through a standardized institutional procedure.

DKM provided extensive training for GDF staff on systematic data collection, evaluation, zoning, and monitoring. The methodology was compiled into two guidebooks and distributed to central and regional GDF staff:

- Integrating Biodiversity into Forestry – Practitioner's Guide
- Integrating Biodiversity into Forestry – Planner's Guide

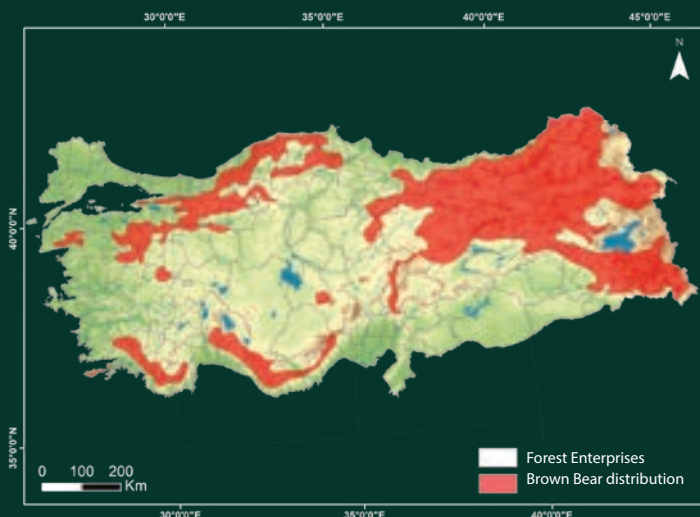
DKM has been working in cooperation with the General Directorate of Forestry since 2008. By the end of 2023, it had successfully completed the

integration of biodiversity conservation into forest management plans across 78 Forest Management Units, covering more than 2 million hectares in various forest ecosystems throughout Türkiye.

This approach has been developed and strengthened over the years with the support of institutions such as UNDP, Yale University School of the Environment, British Petroleum (BP), the Global Environment Facility (GEF), the Food and Agriculture Organization of the United Nations (FAO), and METU's Department of Biology.

In 2023, the same approach was implemented in the Republic of Kosovo, covering approximately 4,500 hectares of forest area, with the support of FAO.

Figure 7. Distribution of Brown Bear (*Ursus arctos*) in Türkiye



Brown Bear (*Ursus arctos*)



©Cengiz Tapan

Conservation of the Steppe Ecosystems

Participatory approaches in conserving ecosystems

Steppes are among Türkiye's most important-yet most degraded-ecosystems in terms of the biodiversity they support. While the total area of potential steppe and steppe forest cover in Türkiye is approximately 335,000 km², the current coverage is less than half of that (around 175,000 km²). This discrepancy highlights that much of the country's natural steppe areas have been converted into agricultural lands or settlements.



©Murat Doğan

European Ground Squirrel (*Spermophilus citellus*)



©Nihan Yenilmez Arpa

In addition to the absence of detailed maps showing the distribution of steppes across the country, another major challenge is the absence of a single institution responsible for the management of these ecosystems. For these reasons, DKM has initiated efforts to develop the necessary infrastructure for steppe ecosystem and biodiversity conservation.



© Idris Ömez

Goitered Gazelle (*Gazella marica*)

DKM has mapped the national distribution of steppes, assessed steppe biodiversity and its associated threats, and published scientific papers on this critically important topic. In collaboration with the Food and Agriculture Organization of the United Nations (FAO), the General Directorate of Nature Conservation and National Parks, and the General Directorate of Plant Production, DKM has prepared the National and Şanlıurfa Steppe Conservation Strategy and Action Plans through a participatory process.

DKM emphasizes the importance of multi-stakeholder collaboration for steppe conservation in Türkiye. With this innovative vision, DKM developed the country's first national strategy and action plan specifically for steppes. Regarding grazing-one of the most impactful land use practices affecting steppe biodiversity-DKM is working in partnership with the NGO Anatolian Pastures to develop holistic grazing management practices.

Figure 8. Distribution of steppe areas (~17 million ha) and steppe forests (552,334 ha) within the potential steppe region



Adaptation to Climate Change: Forest Ecosystems

Where are the most vulnerable areas, and what can we do to increase the resilience of these vulnerability hotspots?

DKM has led one of the earliest studies in Türkiye on climate change adaptation: Increasing the Resilience of Forest Ecosystems to Climate Change.



Northern Goshawk
(*Accipiter gentilis*)

© Olcay Odabaş



Forest ecosystems play a critical role in enhancing societal resilience by providing essential ecosystem services-such as flood regulation, water provision, non-timber forest products for livelihoods, recreation, and public health support. In addition to these services, forests contribute to climate change mitigation by acting as carbon sinks.

However, forest ecosystems themselves are becoming increasingly vulnerable due to the adverse effects of climate change, including prolonged droughts, heatwaves, and reduced snowfall. Strengthening the resilience of forest ecosystems is therefore essential to reducing the vulnerability of the broader socio-economic system.

The first such study in Türkiye was carried out with the Adana Regional Directorate of Forestry, supported by the Millennium Development Goals (MDG) Achievement Fund and UNDP. The goal was to develop an adaptation plan for forest ecosystems in the Seyhan Basin. The study was conducted in collaboration with experts from the Adana Regional Forest Directorate, namely, Zekeriya Nane, Birol Alkan, Mustafa Pekel, Enis Berberoğlu, and Hakan Doğan.



©Deniz Özüit

The first stage of the study involved developing a model to explain the distribution and occurrence of different forest types. In the second stage, this model was applied to future climate scenarios to assess changes in habitat suitability and potential shifts in the distribution of forest types. This process led to the identification of vulnerability hotspots, based on quantifying changes in habitat suitability. Finally, a package of adaptation practices was developed at both the landscape and stand levels for practical field implementation.

Although many predictive studies assess the impact of climate change on forest habitat suitability, few go further to translate such models into on the ground applications. DKM has bridged this gap by working in partnership with the regional directorates of the General Directorate of Forestry (GDF) in Adana, Konya, and Ankara. The outcomes of these efforts have been integrated into forest management plans as stand-level silvicultural treatments aimed at enhancing forest resilience.

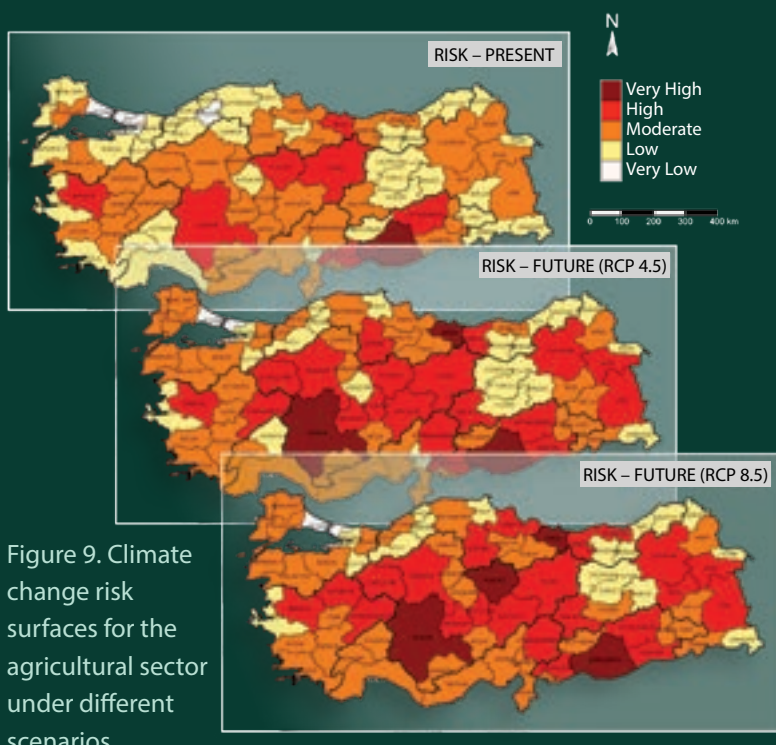


Figure 9. Climate change risk surfaces for the agricultural sector under different scenarios



Adaptation to Climate Change: Multi Sectoral Regional Assessment

How to integrate climate change adaptation to multi sectoral plans?

Modelling should be at the core of climate change adaptation studies, to ground climate action plans on a scientific basis and to guide sectoral and regional priorities. This is an emerging field and the number of experts and projects that integrate modelling and risk analysis into climate action planning is still relatively limited. Climate risk assessments consider not only climate-related hazards but also physical, sociological, and economic factors.



Little Egret (*Egretta garzetta*)



The Intergovernmental Panel on Climate Change (IPCC) has developed a systematic framework that addresses all these components: exposure, vulnerability (including adaptive capacity and sensitivity), and hazard. While the methodology is conceptually straightforward, it is highly data intensive. The implementation process requires multiple steps, including data collection, selection of appropriate indicators, and determining indicator weights.

With its extensive experience in spatial planning and risk assessments, and using the IPCC's Fifth Assessment Report methodology, DKM carried out climate change risk analysis for nine sectors- water resources, urbanization, tourism and cultural heritage, disaster management, ecosystems and biodiversity, health, agriculture, livestock, and fisheries-. This work was carried out in cooperation with the UNDP and the Ministry of Environment, Urbanization and Climate Change.

The risk analysis served as a basis for prioritizing regional and sectoral climate change actions, resulting in the preparation of regional climate change action plans for Türkiye's seven geographical regions. A total of 25 experts participated in preparing the action plans, with support from 24 institutions. DKM led the entire process-from risk assessment to the development of action plans. While similar projects have been conducted in other countries, this initiative stands out as one of the pioneering multi-sectoral efforts in its scope and integration.



In addition, DKM prepared the Nature-based Solutions Catalogue and the Catalogue of Co-benefits of Climate Actions, designed as practical guides for a broad audience, including decision-makers, researchers, planners, implementers, and managers across local government, the private sector, NGOs, and academia. These publications make valuable contributions to Türkiye's efforts to combat climate change and reflect DKM's expanded vision of climate adaptation beyond the traditional focus on agriculture and forestry.

Drawing on its expertise in this area, DKM also contributed to the Combating Drought Committee established by the Turkish Parliament, offering effective solutions to improve adaptation capacity in the agriculture, forestry, urbanization, and biodiversity sectors. DKM's recommendations were incorporated into the committee's official report as a shared position supported by all representatives.



Post-Fire Biodiversity-Focused Ecosystem and Ecosystem Services Restoration

How do we care for the whole forest, not just the tree?

Mediterranean forest ecosystems are naturally adapted to fire and possess a strong capacity for regeneration under post-fire conditions. However, due to anthropogenic climate change and other socio-economic factors, fire regimes have shifted-resulting in more frequent and intense wildfires. As a result, the natural regeneration capacity of forest ecosystems is increasingly being suppressed.



In 2021, Türkiye experienced a series of highly destructive mega-fires, burning more than 150,000 hectares of forest and shrubland. This marked the most devastating wildfire season in the history of the Republic, both in terms of scale and economic impact. Fires came dangerously close to residential areas, threatening human life and causing significant socio-economic damage to rural communities that depend on forests for their livelihoods. The frequency and severity of such fires are expected to increase due to the continued effects of climate change.



Following a series of discussions with the General Directorate of Forestry (GDF), it was agreed that post-fire forest management should be improved by integrating biodiversity elements and ecosystem services. DKM was tasked with providing scientific and technical support in this context. Focusing on two major fires that affected 22,000 hectares in the Köyceğiz and Marmaris districts of Muğla province, the aim was to restore forest and maquis ecosystems in post-fire conditions from social, ecological, and economic perspectives.

As part of this effort, DKM will produce a series of outputs including a report evaluating post-fire land use changes across the country, an ecosystem restoration guideline, species-specific restoration plans and monitoring reports to be integrated into forest management plans, an ecosystem services map, a social assessment report identifying the needs of rural communities affected by the fires, and guidelines for incorporating ecosystem services restoration into forest planning.



A dedicated web page has also been launched to share up-to-date scientific information about forest fires, including reports, guidelines, and an interactive map.

These projects are carried out by DKM in coordination with the General Directorate of Forestry, with the support of FAO and BP (British Petroleum). Key stakeholders include the Muğla Regional Forestry Directorate, the Köyceğiz and Marmaris Forest Management Directorates, forest villagers and cooperatives, local farmer cooperatives, and local authorities.





Pollution and Recycling

How Can We Reduce the Burden on Nature?

The fight against pollution-especially plastic pollution-has become increasingly important at the global level. In Türkiye, there is a growing need for innovative, community-based efforts to combat pollution and ensure the sustainable use of natural resources. To address this, DKM has initiated several projects on pollution and recycling in collaboration with a variety of stakeholders.

These projects aim to reduce pollution, particularly plastic waste reaching inland waters and seas, through innovative approaches, the use of technology, and public participation.



Waste trap system implemented in Kemer



DKM has implemented both local and regional projects across different regions of Türkiye, targeting various goals such as combating invasive alien species, providing treatment services in the aftermath of disasters (e.g., earthquakes), creating waste collection systems along rivers, and establishing community-based waste collector networks.

Photographs: ©DKM archive

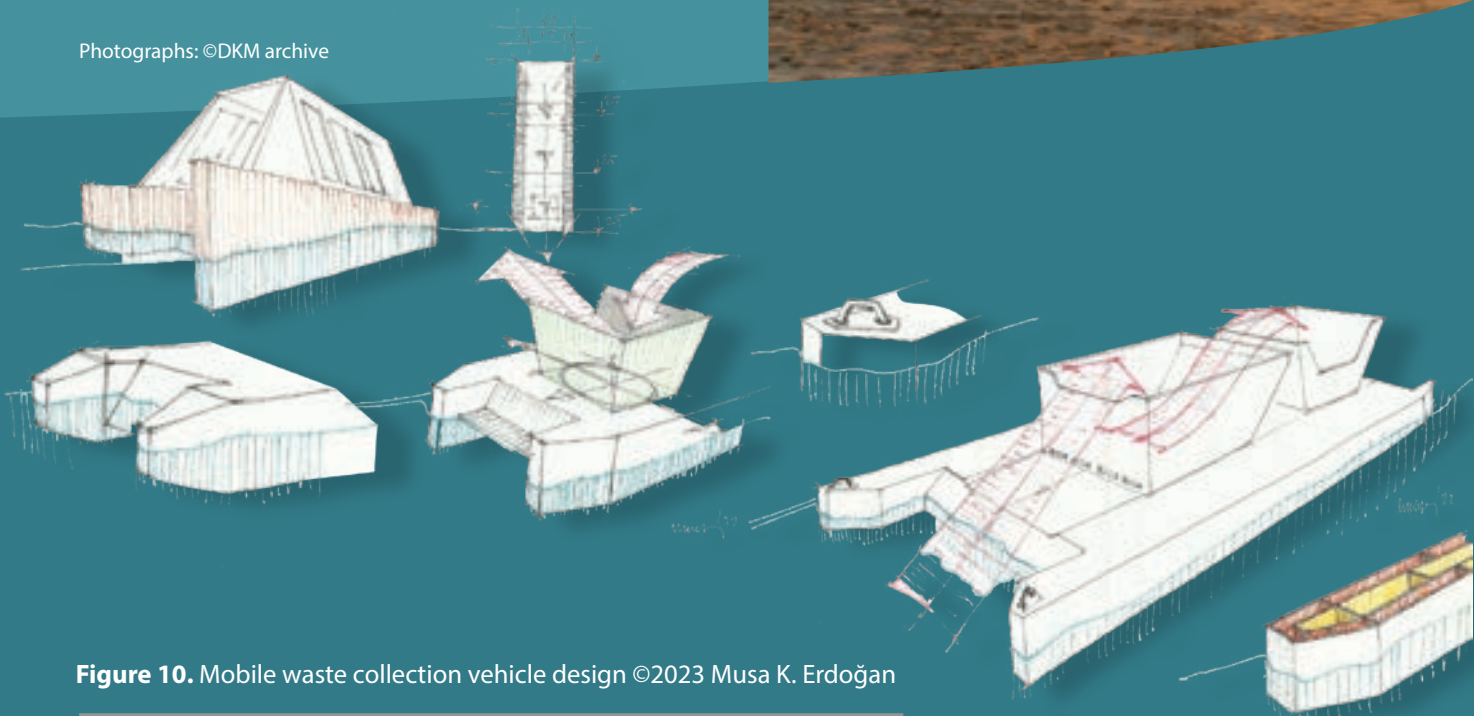


Figure 10. Mobile waste collection vehicle design ©2023 Musa K. Erdoğan



Mainstreaming the Ecosystem Services Approach, Nature-based Solutions, and Ecosystem-based Adaptation in Agriculture and Food Systems

Can reconstructing traditional practices with a new vision offer solutions to the climate crisis in agriculture?

One of DKM's pioneering areas is the development and implementation of technical tools and policy frameworks for Ecosystem-based Adaptation, adopting Nature-based Solutions (NbS) in agriculture and food systems.

Agriculture is a sector that significantly impacts natural ecosystems and consumes nearly three-quarters of water resources-yet it is also among the most vulnerable to climate change and extreme weather events.

Nature-based Solutions hold great potential to enhance the adaptive capacity of the agricultural sector and food systems while improving natural resource use. Both agricultural production and the ecosystem services that sustain it are increasingly threatened by climate change. Protecting these ecosystems and the benefits they provide is therefore critical for the sustainability of the agricultural sector.

Various initiatives with differing perspectives have been developed by organizations to implement this approach. The overarching vision of frameworks such as Ecosystem-based Adaptation (UN), Climate-Friendly Agriculture (FAO), Ecosystem Services (EU), and Nature-based Solutions (IUCN and EU) is that leveraging nature's resources and services to address agricultural challenges is more cost-effective and sustainable in the long term.





DKM designs and implements projects across different regions of Türkiye in collaboration with FAO, the Ministry of Agriculture and Forestry and its provincial branches, universities and research institutes, agricultural chambers, and farmers. These projects focus on the sustainable use and management of natural resources, maintaining ecosystem services, increasing the resilience of natural systems tied to agriculture and food systems, and implementing Nature-based Solutions in the most vulnerable areas.

Some projects emphasize outreach to farmers, while others focus on using these tools in planning and integrating them into agricultural policies.

A key component that DKM brings to this work is modelling and in-depth analysis to identify vulnerable areas, thematic priorities, and suitable practices within the current socio-economic context. Specifically, these interventions aim to ensure the efficient use of land and water, improve water retention, reduce greenhouse gas emissions from agricultural activities, and improve the livelihoods of farmers in high-risk areas. Throughout these efforts, DKM collaborates closely with farmers, government institutions, academia, and the private sector to provide innovative and adaptive solutions to the socio-ecological and economic challenges faced in agricultural production.



Farmer-to-farmer learning mechanisms and dissemination tools are also developed and applied through these projects. The models and experiences gained are used to raise awareness about climate adaptation in agriculture and build national capacity in this area. Through these efforts, DKM has accumulated broad expertise and continues to serve as a knowledge centre on Nature-based Solutions.

Photographs: ©DKM archive

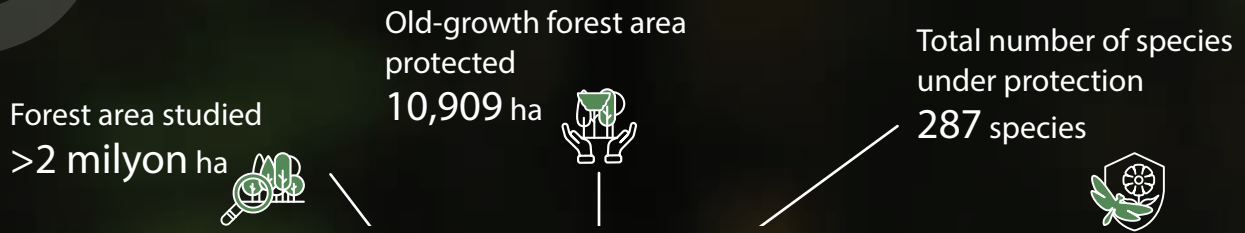
DKM's efforts and practices in climate change adaptation and sustainability have received the following awards:

- World Food Day Plaque on Conservation and Effective Use of Water Resources
- Best United Nations Development Goals Project (International Corporate Social Responsibility (ICSR) Awards)
- Climate Change (The International Corporate Social Responsibility (CSR) Excellence Awards)
- Best Corporate Social Responsibility Project (Best Business Awards)
- Climate Action (10th Corporate Social Responsibility Summit)
- Honourable Mention Award for Business-Community Cooperation (PR News' CSR & Non-Profit Awards)
- Corporate Social Responsibility (The Peer Awards for CSR)
- Honourable Mention (PR News' CSR & Non-Profit Awards)
- Grand Prize (TISK CSR Awards)
- Best Environmental Project – Bronze (The Global CSR Awards)
- Environmental and Ethical Responsibility Award (Communitas Awards)

- Sustainability and Water Conservation – Silver (The International CSR Excellence Awards)
- Environmental Improvement and Sustainable Development – Europe / Habitat and Diversity (Green Apple Awards)
- Projects Adding Value to Society (PRIDA Awards)
- Best Sustainability Project (The AmCham Awards)



DKM in Numbers



Conservation Success

Forest area protected
>200,000 ha



Number of Red-Listed Species
4,271 species



Plants **3,891**, Butterflies **380**

Number of Forest Management
Units for which biodiversity-
focused forest management
planning carried out



**78 Forest Management
Units**

Number of species whose conservation
status has been assessed
5,208 species

Herpetofauna
(reptiles and
amphibia)

170 species



Damselflies
97 species



Grasshoppers (endemic)
360 species

Birds
391 species



Butterflies
365 species



Mammals
149 species



Ants
279 species



Bees (endemic)
32 species



Plants (endemic)
3,365 species



Field Work



Number of field work days
6,689 days



Number of records obtained
through field work
59,004 species



Direct Seeding, Wind Breakers and Night Irrigation Works

Area of direct seeding
15,157 da



Number of trees
planted as wind breaker
232,000 trees



Size of the area irrigated
at night
15,000 da



Retained water volume
31.5 billion liters



Works

Number of
projects
127



Number of
books 91



Number of
reports
330





DAO NGUYEN

International Union for Conservation of Nature (IUCN)

DKM's conservation work embodies a dedicated commitment to preserving Türkiye's natural heritage. Using conservation biology principles, DKM recognizes that safeguarding biodiversity can only succeed through collaboration between communities and government institutions. DKM is leading in conservation policy engagement with the Government of Türkiye and other stakeholders to achieve holistic conservation approach.

With a legacy spanning back to 2004, their dedication to scientific rigor and integrated approaches ensures sustainable use of precious natural resources for generations to come. I have been very privileged to work with some of DKM's colleagues in Türkiye's National Species Conservation Strategy development process and species conservation work. I hope to continue to work with DKM to expand their species conservation work in Türkiye in the coming years.



Prof. Dr. MURAT TÜRKEŞ

Boğaziçi University Center for Climate Change
and Policy Studies

– What comes to mind when you think of the Nature Conservation Centre?

When I think of the Nature Conservation Centre, I think of a genuinely nature-friendly organization carrying out vital and wide-ranging research-from understanding the Anatolian Diagonal and identifying Prime Butterfly Areas, to examining the future of water in Türkiye (especially in the Mediterranean Region), supporting climate change adaptation, and implementing rich and diverse species conservation projects.

– Can you suggest a slogan for DKM?

“Wherever there’s a nature conservation issue or challenge, the Nature Conservation Centre is there-on the side of nature, bugs, and the people!”

– What would you like to say about DKM’s 20th anniversary?

Over the past 20 years, the Nature Conservation Centre has made significant contributions to the field of nature conservation in Türkiye, conducting impactful work grounded in a public-interest approach. DKM is a great asset to both Türkiye and its natural environment. That’s why I value, follow, and support its existence and efforts. I believe DKM will continue on its path in the light of science, building upon what it has achieved so far-and I wish the team continued success.

Publications

Books - Booklets

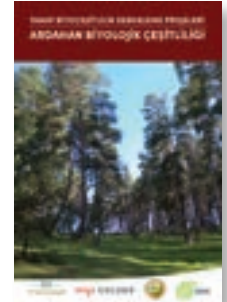
In press *Nature-based Solutions Catalogue and Catalogue of Co-benefits of Climate Actions*



2022 Strategic Program and Action Plan for Strengthening Urban Agriculture and Rural Areas within the Borders of Ankara Metropolitan Municipality



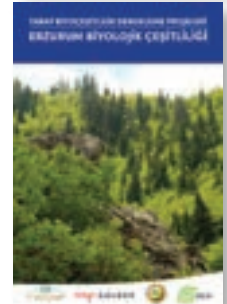
2022 TANAP Biodiversity Offset Project- Biodiversity of Ardahan



2023 Experience of Integrating Biodiversity into Forest Management Plans Erzurum Regional Directorate of Forestry (Turkish and English)



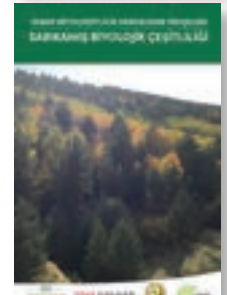
2022 TANAP Biodiversity Offset Project- Biodiversity of Erzurum



2023 Endangered Species Activity Booklet (Turkish and English)



2022 TANAP Biodiversity Offset Project- Biodiversity of Sarıkamış



2023 National Species Conservation Strategy for Türkiye (Turkish and English)



2022 National Guide on Prioritization of Species (Turkish and English)



2023 Forest Ecosystems and Sink Area Management in Combating Climate Crisis in Türkiye Report



2020 Assessment of the Adana Regional Directorate of Forestry and the Pos Forest Management Directorate Based on Sustainable Forest Management Criteria and Indicators



2020 Assessment of the Antalya Regional Directorate of Forestry and the Gazipaşa Forest Management Directorate Based on Sustainable Forest Management Criteria and Indicators



2020 Integrating Hydrological Functions into Forest Management Plans Guide



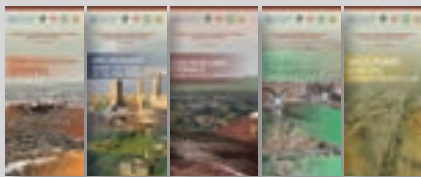
2020 Integrating Biodiversity into Forest Management Plans: Lessons from the Gazipaşa Forest Management Directorate



2020 Assessment of the Kahramanmaraş Regional Directorate of Forestry and the Andırın Forest Management Directorate Based on Sustainable Forest Management Criteria and Indicators



2020 Steppe - Brochures (6 brochures; Turkish and English)



2020 Assessment of the Mersin Regional Directorate of Forestry and the Gülnar Forest Management Directorate Based on Sustainable Forest Management Criteria and Indicators



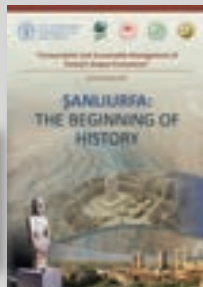
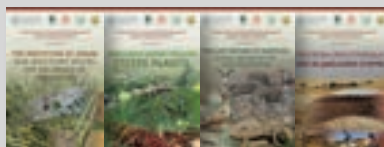
2020 Steppe - Activity Booklets (5 booklets; Turkish and English)



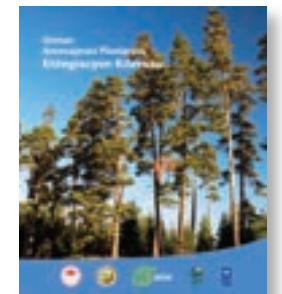
2020 Assessment of the Muğla Regional Directorate of Forestry and the Köyceğiz Forest Management Directorate Based on Sustainable Forest Management Criteria and Indicators



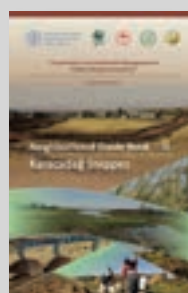
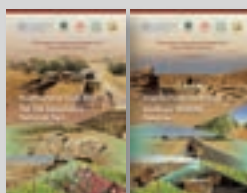
2020 Steppe Booklets



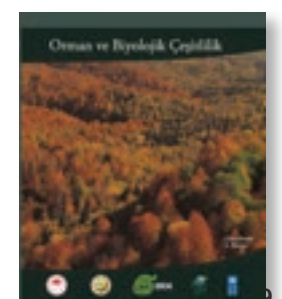
2020 Integrating Biodiversity into Forestry Guide



2020 Steppe - Village Guides (3 guides; Turkish and English)



2020 Forests and Biodiversity



2020 Şanlıurfa Steppe Conservation Strategy and Action Plan (Turkish and English)



2019 Integration of Biodiversity into Forestry - Practitioner's Guide (Turkish and English)



2020 Ecosystem Services as a Tool for Urban Planning: The Case of Çankaya District



2019 Research Report for the Project on Enhancing Agricultural Climate Change Adaptation Capacity in the TRC1 Region (Gaziantep-Adıyaman-Kilis)



2020 Examples of Best Practices on Green Infrastructure and Nature-based Solutions in Cities (Turkish and English)



2018 Forest Carbon Standard Implementation Project for Combating Climate Change: Proposal for a National Afforestation Carbon Standard



2020 "Türlü Türlü Haller" Campaign Illustration Catalogue



2017 Art in Sweetgum Forests (Turkish and English)



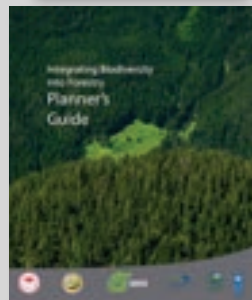
2020 National Steppe Conservation Strategy and Action Plan (Turkish and English)



2016 Afforestation Carbon



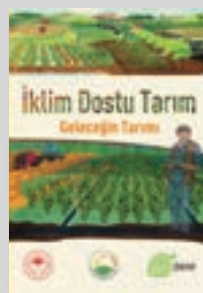
2019 Integration of Biodiversity into Forestry - Planner's Guide (Turkish and English)



2016 Direct Seeding Manual



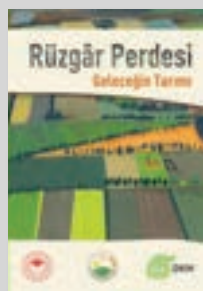
2016 Climate-Friendly Agriculture Manual



2011 Climate Change and Forestry: From Models to Practices



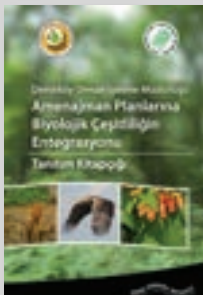
2016 Wind Breaker Manual



2011 Guide to Combating Butterfly Smuggling



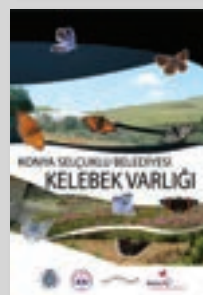
2013 Demirköy Forest Management Directorate Booklet on the Integration of Biodiversity



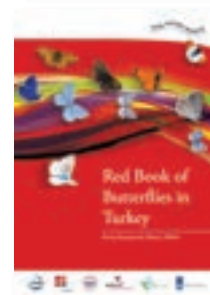
2011 Conservation Strategy for Butterflies in Turkey (Turkish and English)



2013 Butterfly Diversity of Konya Selçuklu Municipality



2011 Red Book of Butterflies in Turkey (Turkish and English)



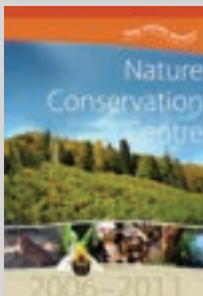
2013 The State of Water in Türkiye and New Approaches to Water Management: An Environmental Perspective



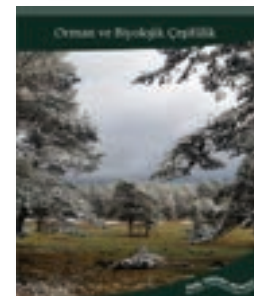
2011 National Biodiversity Monitoring Report (Turkish and English)



2012 DKM Annual Report 2006-2011 (Turkish and English)



2008 Forests and Biodiversity





GEOFF WELCH

Nature Conservation Advisor



HILARY WELCH

Nature Conservation Specialist

DKM is firmly established as the leading objective science- based conservation organisation in Türkiye with experience from the species to the landscape level. Much of its work on the use of GIS, remote sensing and systematic conservation planning is at the forefront of the use of these tools for identifying cost-effective conservation opportunities on the ground.

This strong science-based background underpins the numerous collaborations that the organisation has with NGOs, government and the private sector.

FATİH ERDEM

Trans Anatolian Natural Gas Pipeline
Project (TANAP)

– What comes to mind when you think of DKM?

We see DKM as a reliable partner in biodiversity-one of the most vital and valuable components of sustainability, whose importance to our world we recognize more deeply with each passing day.

– What would you like to say about DKM's 20th anniversary?

I hope and wish that DKM continues to grow stronger for a more liveable world and environment, becoming increasingly visible and impactful as a global player, and further expanding its influence on the future of our planet.

Project Highlights



Eastern Imperial Eagle
(*Aquila heliaca*)



©Ahmet Karataş



Photographs: ©DKM archive

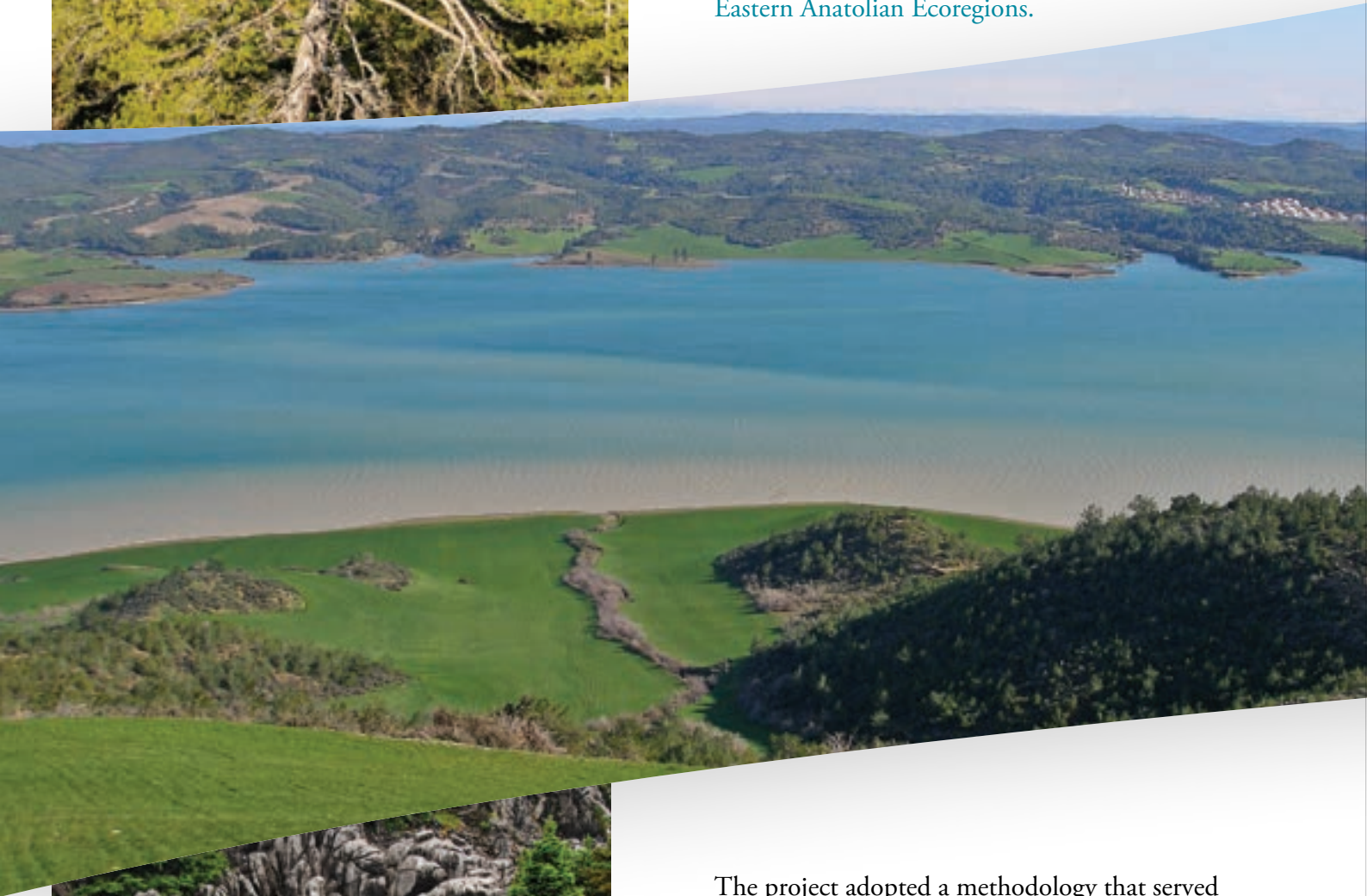
The Nature Conservation Centre sees the projects it implements as tools to bring about systemic transformations related to the issues it works on.



The Anatolian Diagonal Biodiversity Assessment: Conservation Priority Analysis for the Eastern Mediterranean and Eastern Anatolian Ecoregions **2006–2009**



The main goal of this project was to develop tools and a foundational knowledge base for key implementers working on the conservation and sustainable use of biodiversity and natural resources in the Eastern Mediterranean and Eastern Anatolian Ecoregions.



The project adopted a methodology that served as the basis for Systematic Conservation Planning (SCP), a widely applied approach to halting biodiversity loss through conservation prioritization and strengthening protected area networks. DKM's work involved compiling and analysing both existing and newly collected

Grey-headed Swampphen
(*Porphyrio poliocephalus*)

© Mecit Vural

Grey-headed Swamphen
(*Porphyrio poliocephalus*)

Integrating Biodiversity into Forestry

2009–2015



In this project, target forest species and their distributions across Türkiye were identified using a detailed scoring system developed by experts on mammals, birds, reptiles, amphibians, butterflies, and plants. As part of the project, two manuals were produced.



© İlker Küll

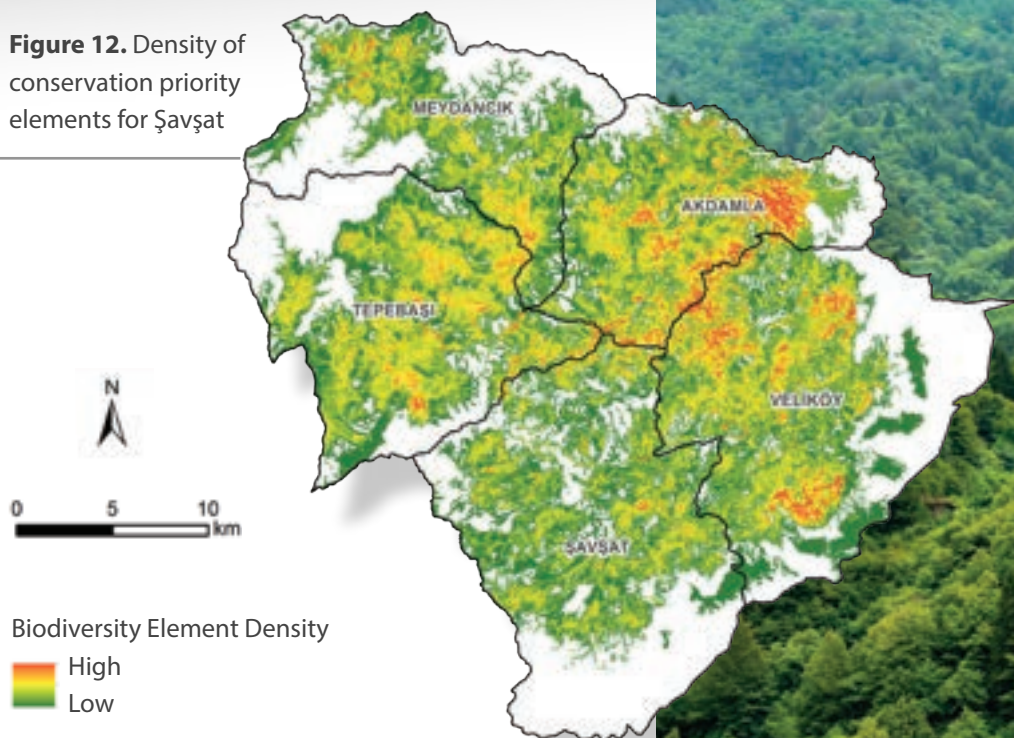
The first outlined the steps of the integration process-inventory, modelling, zoning, assigning forest management decisions, quality control, and monitoring. The second manual provided detailed descriptions of the target species (including identification, inventory guidelines, habitat requirements, critical periods, etc.), species-specific forest management recommendations, and explanations of relevant ecological processes (such as old-growth forests, marginal populations, and more).

Cinereous Vulture (*Aegypius monachus*)

Antalya Salamander
(*Lyciasalamandra antalyana*)

During the course of this project, DKM's approach to integrating biodiversity conservation into forest management plans was adopted in the plan revision processes of several Forest Management Directorates (FMDs), including Artvin Şavşat, Gümüşhane, Muğla Marmaris, Kırklareli Demirköy, and Bayburt. The project was supported by the BTC-EIP (Baku-Tbilisi-Ceyhan Pipeline Company's Environmental Investment Programme in Türkiye) and implemented in partnership with the (former) Ministry of Forestry and Water Affairs and the General Directorate of Forestry.

Figure 12. Density of conservation priority elements for Şavşat

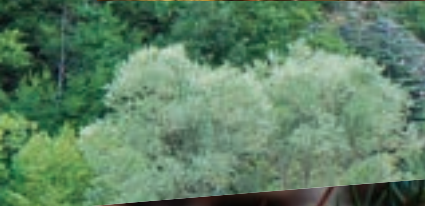


Adaptation of Forest Ecosystems and Forestry to Climate Change in the Seyhan Basin **2009–2010**



DKM's role in this project involved assessing the impacts of climate change on four main forest types in the Seyhan Basin-an area covering 20,450 km² in southern Türkiye-through the use of GIS analyses and spatial modelling techniques.



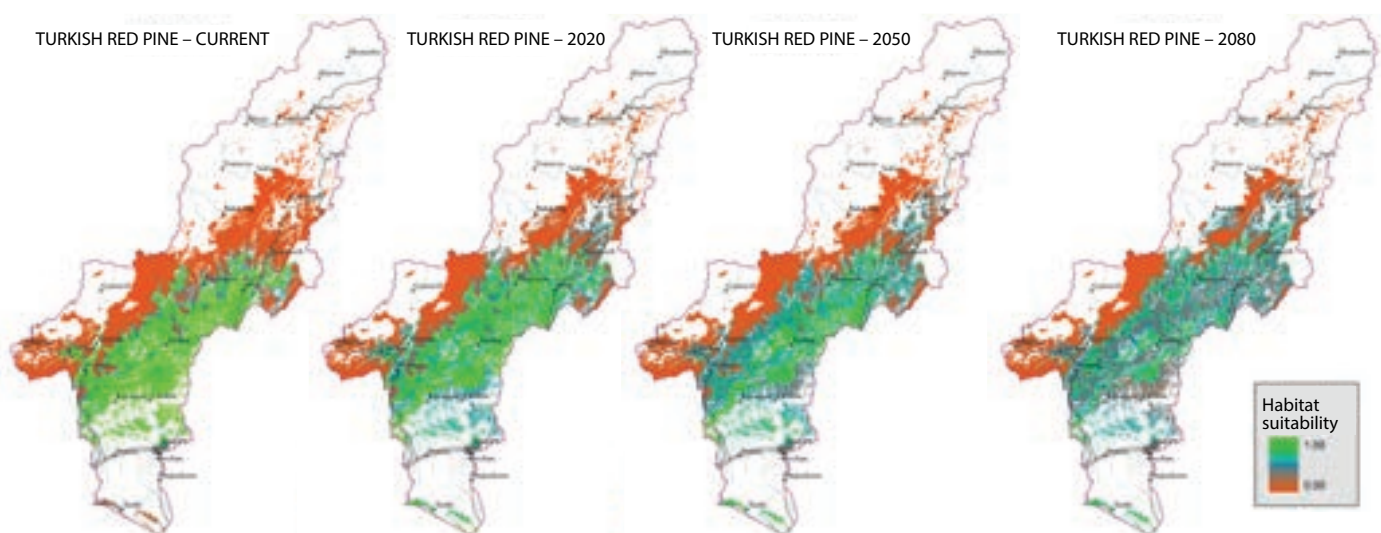


Another task undertaken by the DKM team was conducting advanced analyses to identify forest areas expected to become increasingly vulnerable due to climate change. In addition to contributing to general recommendations for all Mediterranean forest ecosystems, DKM supported the development of specific adaptation measures at different levels, including species-specific recommendations and forestry practices tailored to the vulnerable areas identified through the analysis.

The DKM team also participated in field work to observe existing signs of climate change impacts in these areas. The project was supported by the United Nations Development Programme (UNDP) Türkiye.

Photographs: ©DKM archive

Figure 13. Projected changes in habitat suitability for Turkish red pine in non-agricultural and non-residential areas in the Seyhan Basin



Developing a Basis for the Active Conservation of Türkiye's Butterflies

2009–2011



©Dirk Maes

The aim of this project was to establish and develop a foundation for the active conservation of Türkiye's butterflies.



©Ahmet Baytaş

Polyommatus sp.





Key results and impacts included making all existing butterfly data in Türkiye freely accessible for conservation studies; producing the Red List of Butterflies in Türkiye; developing a National Conservation Strategy for Butterflies in Türkiye; compiling the list of Türkiye's Prime Butterfly Areas (PBAs); building a trained and active core group of Turkish butterfly watchers and experts; supporting relevant government agencies in more effectively implementing butterfly conservation actions in both protected areas and the wider countryside; and raising awareness of the richness and importance of Türkiye's butterfly fauna.

The project laid a strong foundation for butterfly conservation in Türkiye, drawing on DKM's technical capacity and expertise. It was supported by the BBI-Matra Programme of the Dutch Government.

Photographs: ©Hilary ve Geoff Welch

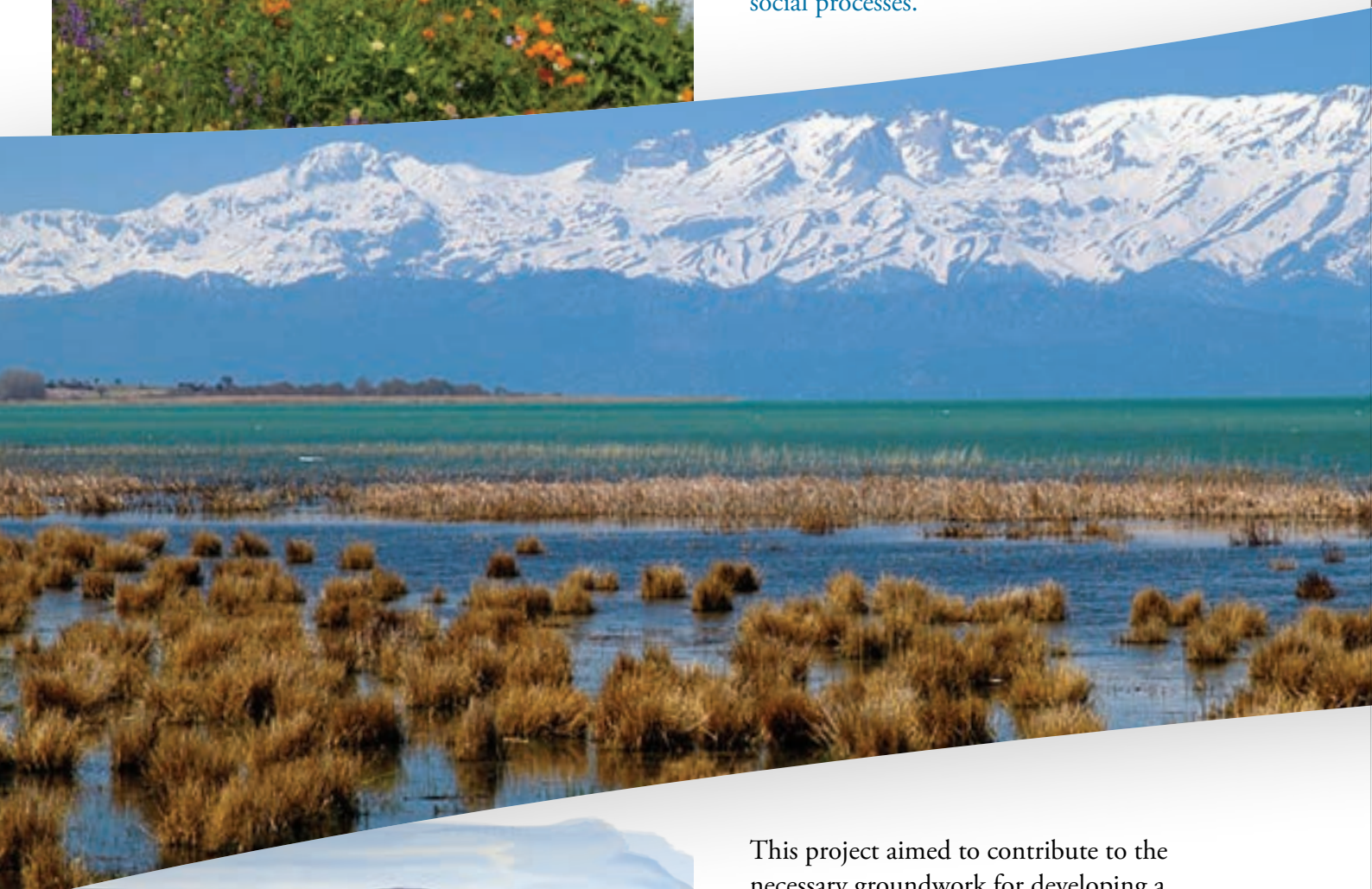
Figure 14. Country-wise approximate butterfly species richness



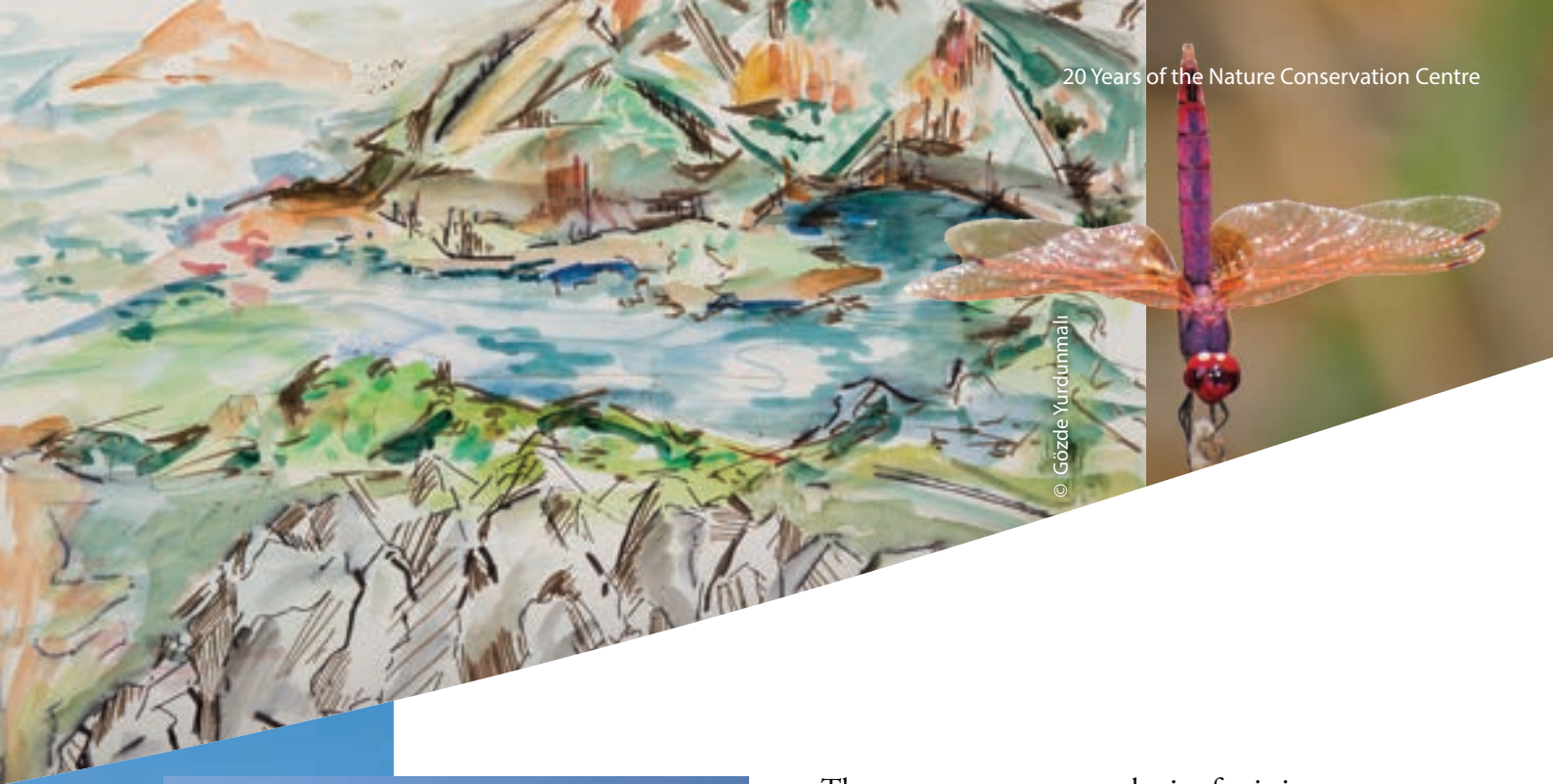
Developing the Focus for a Water Vision for Türkiye 2012–2013



Although two-thirds of the Earth is covered with water, the amount of fresh and clean water available for human use is extremely limited. With the influence of changing ecological processes and climate change, this limitation has escalated into a global crisis. All future projections for Türkiye indicate growing water shortages in both the near and long term. This issue is not only physical but also closely linked to production sectors and social processes.



This project aimed to contribute to the necessary groundwork for developing a realistic, up-to-date, and participatory water vision for Türkiye. Within the scope of the project, DKM prepared a comprehensive report for the World Business Council for Sustainable Development (Türkiye), focusing on the environmental dimensions of water management.



© Gözde Yurdumali



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The report presents a synthesis of existing water management approaches and methods from around the world, highlighting the benefits of the Ecosystem Approach. It also evaluates Türkiye's transition toward globally recognized management practices. In this context, the European Union Water Framework Directive, Basin-Based Management, and Integrated Water Resources Management approaches are examined in detail.

Photographs: ©DKM archive



© Tansu Gürpınar



Forest Carbon Projects 2012–2016



With the support of the British Embassy Prosperity Fund, DKM and the General Directorate of Forestry implemented four projects to lay the foundation for forest carbon markets in Türkiye:





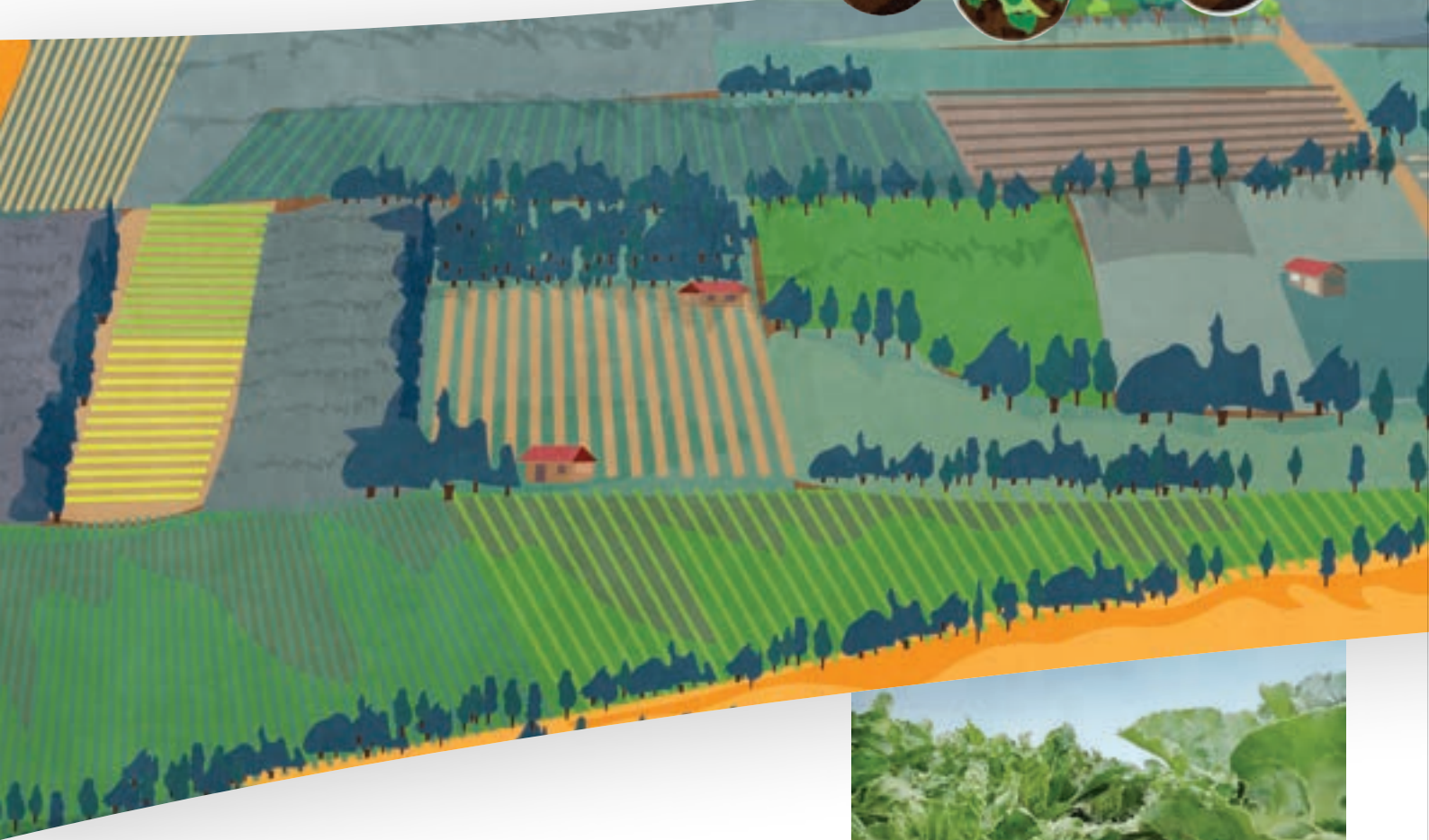
1. Establishing the Basis for Forest Carbon Markets in Türkiye (2012–2013),
2. A Carbon Certification System for Afforestation Areas in Türkiye (2013–2014),
3. Developing the Turkish Forest Carbon Guide to Tackle Climate Change (2014–2015), and
4. Implementing the Turkish Forest Carbon Guide (2015–2016).

These projects strengthened the capacity of public institutions, the private sector, and NGOs in Türkiye in the field of forest carbon markets. As part of the efforts, a draft carbon certification system for afforestation areas was developed, and the Turkish Forest Carbon Guide was prepared and piloted at a designated site.



As a result of these initiatives, following Türkiye's ratification of the Paris Agreement, the Ministry of Agriculture and Forestry launched efforts to develop national legislation for forest carbon markets.

Agriculture of the Future (Life+ Environment Programme) **2013–2016**



The objective of the project was to build national capacity and raise awareness on climate change adaptation-including drought mitigation-while improving land water retention and ensuring the efficient use of land and water in agriculture and food systems using the ecosystem approach in the Konya Basin.





Project activities included conservation agriculture practices such as direct seeding and wind breakers, efficient irrigation techniques, climate change modelling, ecosystem services mapping, and biodiversity monitoring in Karapınar, Cihanbeyli, Ilgın, Güneysınır, and Sarayönü districts of Konya. The project reached 60,000 farmers and more than 200,000 people, with 600 farmers directly implementing some or all of the recommended practices.

Another important component of the project was mapping ecosystem services utilized in agriculture and food systems. The spatial distribution of these services was assessed, areas in Cihanbeyli that may be affected by climate change were identified, and district-level recommendations were developed to protect and restore natural areas that provide ecosystem services. To disseminate the knowledge and experience gained through the program, more than 40 workshops, meetings, and presentations were held with farmers in the region, and booklets, brochures, posters, and other printed materials on climate-friendly agricultural practices were produced. The project was funded by the Coca-Cola Life Plus Foundation and implemented in collaboration with the General Directorate of Agricultural Reform.

Photographs: © DKM archive

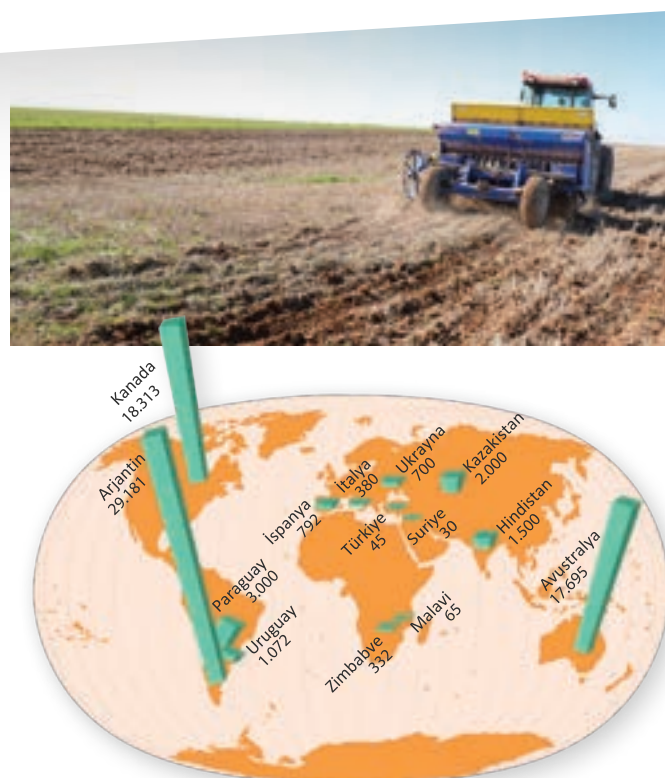


Figure 15. Direct seeding areas by country as of 2013 (1,000 ha)

Source: FAO Statistics (Food and Agriculture Organization of the United Nations)

Adapting Mediterranean Forests to Climate Change **2013–2016**



Southern White Admiral
(*Limenitis reducta*)

Within the scope of the project, climate change sensitivity of black pine (*Pinus nigra*) and Taurus fir (*Abies cilicica*) forests within the Konya Regional Directorate of Forestry-covering an area of more than 5.6 million hectares-was spatially assessed and mapped. In addition, a new algorithm was developed to identify forest areas sensitive to land degradation processes driven by climate change.



Projected changes were spatially classified based on modelling outputs. As a result, an adaptation strategy was developed for the entire Konya Regional Directorate of Forestry, along with specific measures for vulnerable forest types.



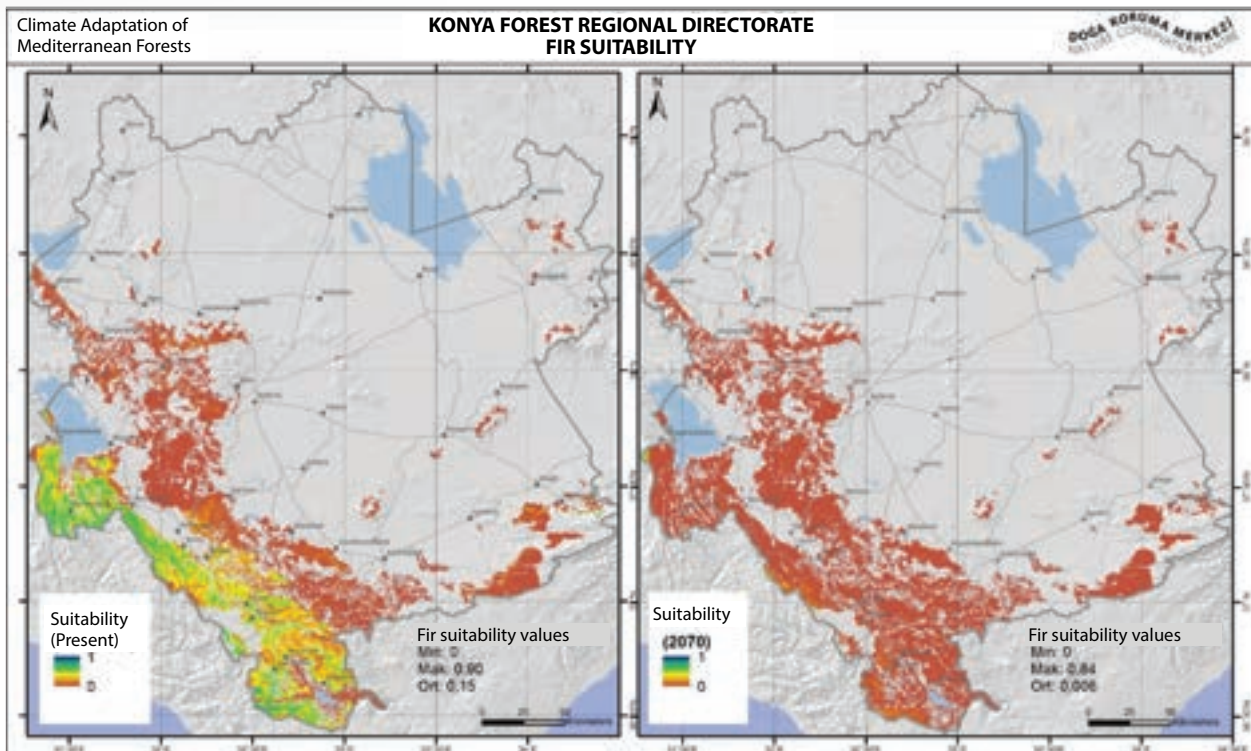


Brevisage Ironwort
(*Sideritis brevidens*)

The general climate adaptation strategy was incorporated into the forest management plans of all Forest Management Directorates (FMDs) renewed in 2016 within the Konya region. The importance of protecting oak and juniper forests for climate change adaptation was introduced as a guiding vision across all plans. For two selected FMDs, Kızıldağ and Aşağıçiğil, specific measures were developed and integrated into their forest management plans. The spatial analysis and modelling components of this WWF-Türkiye project were implemented by DKM. The project was supported by the MAVA Foundation.

Photographs: ©DKM archive

Figure 16. Modelled suitability of fir habitats for the present and 2070 in the Konya Forest Regional Directorate



Growing Wildlife-Friendly Olives: Understanding the Links Between Farming Practices and Biodiversity in Olive Groves

2014–2017



Glaucopsyche alexis

The main objective of the project was to assess the interactions between conventional and organic olive cultivation practices with biodiversity and pollution.



The first step of the project was to select sampling areas that would allow comparisons between different agricultural practices. DKM used spatial tools to identify sampling sites that were environmentally similar but differed in terms of agricultural methods.



Within the project, detailed data were collected on various taxonomic groups including birds, butterflies, plants, and spiders, and the relationship between agricultural practices and biodiversity was analyzed through community-level analyses. DKM was responsible for conducting spatial analyses in the Geographic Information System (GIS) environment.



Lycaena ottomana

Detailed landscape analyses were carried out using various metrics, and indices derived from statistical analyses (e.g., SHI; Shannon Diversity Index) were incorporated as environmental parameters in the biodiversity community analyses to evaluate their influence on species composition. DKM was also responsible for establishing the project's quantitative database and provided support for data assessments and analyses. Furthermore, DKM played an active role in identifying ecosystem services and nature-friendly agricultural practices, which formed the final output of the project. The project, coordinated by Erciyes University, was supported by the Scientific and Technological Research Council of Türkiye (TÜBİTAK) under its Research Projects Support Programme.

Photographs: © DKM archive

Table 1. List of species recorded in olive groves and natural areas, including the type of agricultural land where each species was observed

No	Species	Abbrev.	Natural Area	Conventional	Organic
1	<i>Anthracinus cuneatus</i>	ANTCUN	1	1	1
2	<i>Apollonia corymbosa</i>	APOLCUM	1	1	1
3	<i>Apollonia apollonia</i>	APOLAPO	1	1	1
4	<i>Argynnis peneus</i>	ARGPEN	1	1	1
5	<i>Aras agestis</i>	ARAGE	1	1	1
6	<i>Aras anteros</i>	ARANT	1	1	1
7	<i>Callipolis naja</i>	CALLNA	1	1	1
8	<i>Campanile aenea</i>	CAMALC	1	1	1
9	<i>Campanile clematis</i>	CAMCCL	1	1	1
10	<i>Celastris argentea</i>	CELARG	1	1	1
11	<i>Clematis flammula</i>	CLEFLA	1	1	1
12	<i>Cotula allardiana</i>	COTALL	1	1	1
13	<i>Cotula incisa</i>	COTINC	1	1	1
14	<i>Cypripedium</i>	CYPPIP	1	1	1
15	<i>Cyanus caeruleus</i>	CYCAER	1	1	1
16	<i>Euphrasia</i>	EUPHRA	1	1	1
17	<i>Euphrasia</i>	EUPHRA	1	1	1
18	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
19	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
20	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
21	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
22	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
23	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
24	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
25	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
26	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
27	<i>Glaucocorypha alba</i>	GLAALB	1	1	1
28	<i>Glaucocorypha alba</i>	GLAALB	1	1	1

No	Species	Abbrev.	Natural Area	Conventional	Organic
29	<i>Lycaena ottomana</i>	LYOTOT	1	1	1
30	<i>Lycaena ottomana</i>	LYOTOT	1	1	1
31	<i>Macroglossum stellatarum</i>	MACSTE	1	1	1
32	<i>Maniola jurtina</i>	MANJUR	1	1	1
33	<i>Maniola jurtina</i>	MANJUR	1	1	1
34	<i>Papilio alexandria</i>	PAPALE	1	1	1
35	<i>Papilio machaon</i>	PAPMAC	1	1	1
36	<i>Pieris brassicae</i>	PIEBRA	1	1	1
37	<i>Pieris brassicae</i>	PIEBRA	1	1	1
38	<i>Pieris rapae</i>	PIERAP	1	1	1
39	<i>Polymathus amandus</i>	POLAMA	1	1	1
40	<i>Polymathus amandus</i>	POLAMA	1	1	1
41	<i>Polymathus amandus</i>	POLAMA	1	1	1
42	<i>Polymathus amandus</i>	POLAMA	1	1	1
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46	<i>Polymathus amandus</i>	POLAMA	1	1	1
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89	<i>Polymathus amandus</i>	POLAMA	1	1	1
90	<i>Polymathus amandus</i>	POLAMA	1	1	1
91	<i>Polymathus amandus</i>	POLAMA	1	1	1
92	<i>Polymathus amandus</i>	POLAMA	1	1	1
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96	<i>Polymathus amandus</i>	POLAMA	1	1	1
97	<i>Polymathus amandus</i>	POLAMA	1	1	1
98	<i>Polymathus amandus</i>	POLAMA	1	1	1
99	<i>Polymathus amandus</i>	POLAMA	1	1	1
100	<i>Polymathus amandus</i>	POLAMA	1	1	1

Integrated Approach to Management of Forests in Türkiye, with Demonstration in High Conservation Value Forests in the Mediterranean Region

2014–2019

As a project partner, DKM contributed to Component 3 of the project: strengthening the protection of high conservation value forests in the Mediterranean landscape.



Under this component, DKM worked with the Ministry of Agriculture and Forestry General Directorate of Forestry and relevant institutions to improve the protection of high nature value forests in five pilot sites (Köyceğiz, Gazipaşa, Gülnar, Pos, and Andırın FMDs), to establish buffer zones and ecological corridors integrating protected areas and protected forests into the wider production landscape, and to develop partnerships between pilot FMDs and local communities for ecotourism and non-timber forest product management.

Additionally, DKM worked on utilizing the national set of Sustainable Forest Management (SFM) Criteria and Indicators to develop an effective tool for spatial planning at the landscape level, with the goal of advancing a multi-criteria and multi-sectoral planning vision for forest management in Türkiye. This work was conducted at the Mediterranean Region scale, covering approximately 90,000 km².

Forty indicators from the national SFM set were assessed, and those with spatial data were used in the analysis. Additional analyses and modelling studies were also conducted, including future projections. As a result, forest management priorities, strategic objectives, and functions were spatially identified at different planning scales, and key topics and areas requiring intersectoral cooperation were reported. This study demonstrates how the SFM Criteria and Indicators can serve as an effective tool to support forest management planning teams in managing forests more sustainably. Furthermore, a regional conservation system was developed for the Mediterranean Region using the Systematic Conservation Planning (SCP) approach. A network of 72 priority conservation areas was identified, and site-specific management guides were prepared for each.

The project was supported by the Global Environment Facility (GEF), implemented by UNDP Türkiye, and executed by the Ministry of Agriculture and Forestry General Directorate of Forestry.

Nature for Youth and Cities 2016–2019



The aim of the project was to contribute to the improvement of quality of life for residents of Ankara while also empowering young people to become advocates for sustainable cities. The project sought to support the conservation of the natural environment within the Middle East Technical University (METU) Campus and to increase public awareness about the value of its natural assets. Through active exchange, the project also aimed to benefit from the experiences of similar programs and initiatives in Europe.



METU, as the lead partner, implemented the project in collaboration with partners from the UK, Greece, and Italy. Key activities included;

- Mobilizing and building the capacity of youth for knowledge-sharing on nature education programs,
- Developing training curricula, and
- Scaling the model to other university campuses and relevant institutions.





Eastern Euphydryas
(*Euphydryas orientalis*)

The project's approach focused on educating and closely engaging young people through a program developed by experts in nature conservation, education, and sustainability. Capacity-building activities in the project emphasized learning by doing and peer-to-peer learning, enabling youth participants to improve their skills and eventually become trainers themselves. These young trainers implemented five educational modules on butterflies, plants, steppe ecosystems, sustainability, and climate change. Project activities helped young people launch professional careers in sustainability and nature conservation or develop hobbies that contribute to a healthier and more fulfilling life. In the long term, the project is expected to support the development of sustainable cities in Türkiye.

The project was supported by Erasmus+ Strategic Partnerships and implemented through a partnership between METU, Butterfly Conservation (UK), Anima Mundi (Italy), and the Technological Educational Institute of Thessaly (Greece).

Photographs: © DKM archive

Figure 17. METU Nature Map



Agricultural Implications for Ecosystem-based Adaptation (EBA) to Climate Change in Steppe Ecosystems

2016–2017



The benefits and services provided by natural ecosystems are among the most powerful tools we have for strengthening societal resilience to the adverse impacts of climate change.

The conservation of steppe ecosystems is of vital importance for enabling the agricultural sector to adapt to climate change. To support this, DKM conducted a gap analysis and institutional mapping to identify knowledge, planning, and implementation deficiencies in the application of the Ecosystem-based Adaptation (EBA) approach.



DKM also analyzed existing legislation; developed a toolkit of measures and practices to facilitate the implementation of EBA services; proposed a monitoring program and policy recommendations aligned with both Turkish and EU legislation to enhance governance of the EBA approach in Türkiye; and supported increased inter-institutional coordination among key stakeholders and institutions. The project was supported by the Food and Agriculture Organization of the United Nations (FAO).



Prof. Dr. NÜZHET DALFES

ITU Eurasia Institute of Earth Sciences
Member of DKM Scientific Committee

DKM is one of the top three biology-focused institutions in Türkiye. The team that carried out the work on climate change and forestry deserves nothing but appreciation. The level of cooperation demonstrated and documented between the staff of the General Directorate of Forestry-arguably one of Türkiye's most distinguished public institutions-and the Nature Conservation Centre, a truly unique non-governmental organization, is a significant source of hope for those in our country who value science-based natural resource management.



Prof. Dr. UĞUR MURAT LELOĞLU

Turkish Aeronautical Association University

– **What comes to mind when you think of DKM?**

An organization that embodies love for nature through knowledge and dedication-a moral compass for us all.

– **Can you suggest a slogan for DKM?**

Let's build a harmonious life together.

– **What would you like to say about DKM's 20th anniversary?**

Had DKM not existed, we would have suffered from its absence-without even knowing what we were missing. Thankfully, it has touched the lives of everyone-whether they realize it or not. Here's to many more 20 years to come.

Wise Use of Water: Night Irrigation in Harran Plain 2017

The objective of the project was to promote night irrigation, alongside sprinkler irrigation, in Şanlıurfa, and to share the experience and knowledge gained in this region with farmers in the Konya Plain through farmer-to-farmer exchange mechanisms.

In the pilot project sites, existing furrow irrigation systems were converted to sprinkler systems, and the timing of irrigation was shifted to night hours. This reduced water loss due to evaporation and introduced a more efficient irrigation method.



Additionally, farmers' awareness of efficient irrigation techniques was increased through meetings and field work. To foster knowledge exchange, climate-smart agriculture workshops were organized in Şanlıurfa and Konya. These workshops informed participants about the impacts of climate change on agricultural production, methods for adapting to these changes, and the importance of conserving natural resources. The project was supported by the New World initiative—a partnership between the United Nations Development Programme (UNDP) and The Coca-Cola Company.

Photographs: © DKM archive

Sustainable Land Management and Climate-Friendly Agriculture Project: Biodiversity Inventories and Management Plan

2017–2018

DKM prepared the Biodiversity Inventory and Biodiversity Management Plan for the Konya Closed Basin, with a particular focus on the four pilot sites of the Ereğli Forest Management Directorate.

© Iluta Goean



Great Bustard (*Otis tarda*)



Key activities included conducting a baseline assessment for the selected area, mapping habitat types, carrying out biodiversity inventories and ecological analyses, performing species assessments, developing conservation measures, preparing a conservation strategy for the Great Bustard (*Otis tarda*), organizing training workshops, and drafting the Biodiversity Management Plan for the area. Following the completion of this project, DKM continued to work on developing a biodiversity monitoring framework to support the effective implementation of the Biodiversity Management Plan. The project was supported by the Global Environment Facility (GEF) and implemented by the Food and Agriculture Organization of the United Nations (FAO).

Integration of Hydrological Function into Forest Management Plans

2018–2020

In this project, DKM collaborated with the Ministry of Agriculture and Forestry General Directorate of Forestry to integrate the water retention function of forests-one of the most critical ecosystem services they provide-into forest management plans.



The project focused on the İzmir Regional Directorate of Forestry, specifically the Ovacık and Ilıca Forest Management Directorates, located within the Küçük Menderes Sub-Basin, which faces water scarcity and pollution due to intensive agriculture and livestock production.

Through this pioneering initiative, integrated water management plans emphasizing the hydrological functions of forests were developed for both directorates. The project was supported by the GEF Small Grants Programme (SGP).



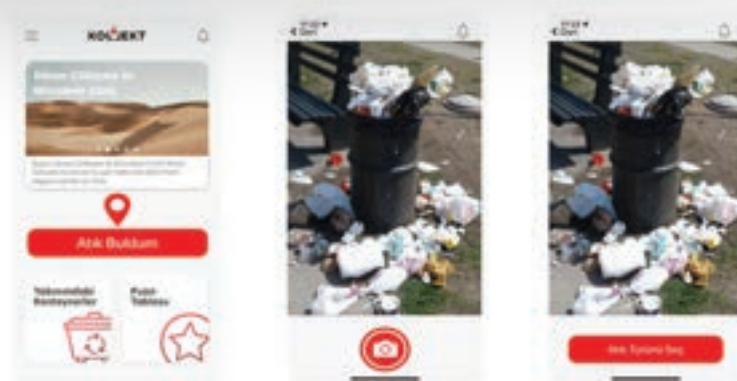
Community-based Recycling for a Waste-Free Mediterranean Programme 2018–2020

The project aimed to contribute to Türkiye's Zero Waste Policy and National Waste Management Strategy.



As part of the initiative, a mobile application called *Kollekt* was developed to alert authorities about uncollected waste piles. Data gathered through the app was used to optimize municipal waste collection routes. Gaps in collection services and their underlying causes

Figure 18. Screenshots from the Kollekt application



were analyzed, and the resulting recommendations were integrated into the Municipality's Waste Management Plan. Additionally, a river waste trap was installed to prevent waste-particularly plastic-from reaching the Mediterranean Sea. Following a public survey, it was decided that the collected waste would be repurposed into urban infrastructure, such as benches. The project was supported by the Coca-Cola Foundation.



Citizen Science Event / Bioblitz 2018–ongoing



Bioblitz, or *Tür Say* in Turkish, is a biodiversity detection event—an intensive biological survey aimed at recording all living species within a designated area.



It is organized as a marathon with the wide participation of scientists, nature guides, and citizens. The goal is both to engage the public in nature and conservation topics and to document the species diversity of the surveyed site. Since 2018, the event has been organized annually by DKM and the METU Ecosystem Research and Implementation Centre (EKOSAM).



During the full-day activity, nature enthusiasts explore selected areas accompanied by nature guides, observe and photograph plant, bird, and butterfly species, record their sightings using a mobile application, and share the data publicly. Experts assist in species identification throughout the day. Through this citizen science approach, numerous species are recorded each year while participants enjoy a meaningful experience in nature. To date, nearly 5,000 nature enthusiasts and experts have participated in events held in various regions and cities. A total of 7,848 observations have been submitted,

covering 2,182 species. Notably, the METU Campus Bioblitz events have also led to remarkable discoveries: two species previously unrecorded on campus-*Orchis purpurea* in 2019 and *Alkanna orientalis* in 2021-were identified through Bioblitz. These efforts highlight the growing value and impact of citizen science initiatives.



Nature and Cities Project 2019–2020



The project aimed to enhance dialogue, knowledge exchange, and cooperation between Non-governmental Organizations (NGOs) in Türkiye and the Netherlands on environmental and sustainable development issues, within the framework of the EU *acquis* and environmental policies-particularly focusing on Nature-based Solutions (NbS) and Green Infrastructure in urban areas.



As part of the project, a documentary on NbS and Green Infrastructure was produced, and the European Commission's Green Infrastructure Strategy was translated into Turkish. An exhibition showcasing Türkiye's natural values was held in both the Netherlands and Türkiye. In addition, the natural ecosystems and ecosystem services of Ankara were analyzed through spatial mapping and on-site assessments. As an outcome of the project, DKM became a member of the Nature4Cities Network.

The project was supported by the EU Civil Society Dialogue Between the EU and Türkiye (CSD V) Grant Scheme and was implemented in partnership with Eurosite (Netherlands), Çankaya Municipality, and BEIN IZ TV.

Photographs: © DKM archive



National Red List Project for Endemic Plants of Türkiye 2019–2026

Red Lists are among the most widely used global tools for setting conservation priorities. These scientifically grounded assessments determine how close species are to extinction, and the methodology developed by the International Union for Conservation of Nature (IUCN) is accepted as the global standard.



In Türkiye, there have been very few national Red List assessments conducted in alignment with the IUCN approach. The first of these was *The Red Book of Butterflies in Türkiye*, published by DKM in 2011. With this project, for the first time, a scientifically based Red List assessment will be conducted for Türkiye's endemic plant species. Assessing the extinction risk of more than 3,500 endemic plant species native to Türkiye will fill a major information gap for conservation efforts.

*Crocus bifloriformis*

The project evaluates the threat status of Türkiye's endemic plants. Although it began in 2019, the project has been carried out by DKM since 2024. As part of the work, a national database aligned with the IUCN global system has been developed. This system can also be used in the national Red List assessment processes for other taxonomic groups in Türkiye. More than 100 botanical experts are involved in the assessment of endemic plant species. DKM coordinates the evaluation process to ensure compliance with IUCN standards and the preparation of spatial data in appropriate formats. To ensure global recognition of the project outcomes, the Red List Authority for Türkiye's Endemic Plants was established for the first time under the IUCN Species Survival Commission (SSC).



Onobrychis cornuta
steppe – Munzur
Mountains

As a pioneering initiative, this project will fill a critical gap in Türkiye and can be expanded to other species groups, supporting the implementation of effective conservation actions on priority issues. The project is supported by the Ali Nihat Gökyiğit Foundation and DKM.

*Gladiolus hamzaoglui*

Establishment of Enabling Environment for the Effective Conservation of Steppe Biodiversity Across Large Landscapes **2019–2021**



© Nihan Yenilmez Arpa

DKM implemented this project under the framework of the Conservation and Sustainable Management of Türkiye's Steppe Ecosystems Project.



Striped Hyena (*Hyaena hyaena*)

© Idris Ölmaz



© Nihan Yenilmez Arpa

The project aimed to:

- Develop National and Şanlıurfa Steppe Conservation Strategy and Action Plans,
- Organize seminars and workshops on steppe conservation,
- Develop and implement training programs for different stakeholders, along with the production of various supporting materials,
- Develop and implement a training program on protected areas,
- Establish a monitoring program to regularly assess pilot sites (Kızılkuyu Wildlife Reserve, Tek Tek Mountains National Park, and Karacadağ Steppes).

Figure 19. Potential steppe region in Türkiye, according to a study coordinated by the Nature Conservation Centre (Ambarlı et al., 2016)

(Source: DKM)



Within the scope of the project, critical documents for the conservation of steppes and the sustainable management of their natural resources were developed. Among the most important of these are the National and Şanlıurfa Steppe Conservation Strategy and Action Plans-Türkiye's first-ever strategic documents prepared specifically for steppe ecosystems. Through the workshops organized during the project, experts working on steppes from various stakeholder groups were brought together, and national and regional working groups were established to remain active in the long term. The project also raised awareness and made significant contributions to the steppe-related literature through the preparation of diverse educational programs, printed and visual materials, and documentaries tailored to different target audiences.

Goitered Gazelle (*Gazella marica*)



The project was supported by the Global Environment Facility (GEF) and implemented by the Food and Agriculture Organization of the United Nations (FAO), in partnership with the General Directorate of Nature Conservation and National Parks, the General Directorate of Plant Production, and the General Directorate of Forestry.

Desert Monitor (*Varanus griseus*)



Eco-Friendly Sports 2020–2021

The aim of the project was to promote sports and physical activities that not only contribute to better health but also have a positive impact on the environment. The project sought to empower young people with knowledge and skills related to sustainability and nature conservation, encouraging them to become active citizens who incorporate these values into their lives through meaningful engagement with the sports sector.



This was achieved by channelling the energy of youth toward promoting the interconnected concepts of sports, ecology, wellbeing, and health-enhancing physical activity-both within and beyond national borders. The main local activities of the project were held on the METU Campus. The project was supported by the Erasmus+ Sports Programme.

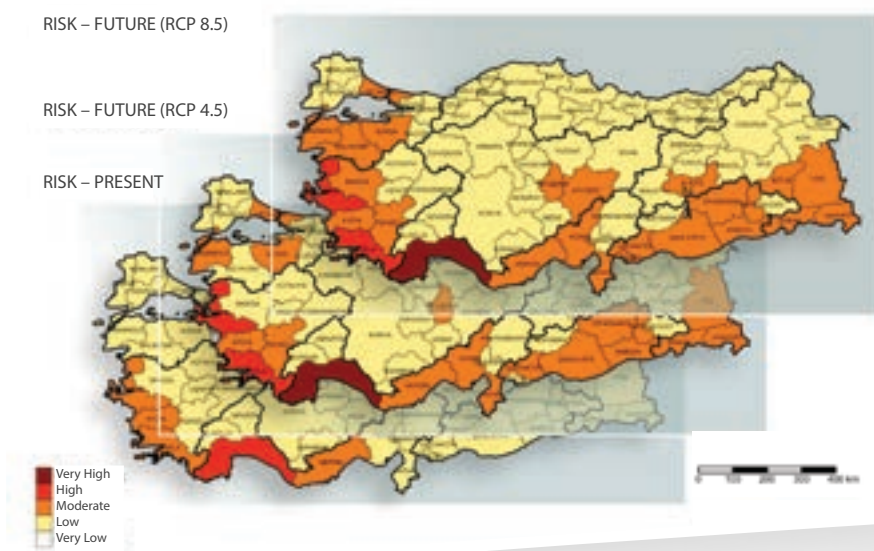
Photographs: ©DKM archive



Climate Promise 2020–2021

Climate Promise is a global initiative through which UNDP provides direct support to more than 100 countries, including Türkiye, to strengthen climate action in line with UNDP's Climate Promise framework. In Türkiye, the Climate Promise (CP) work plan was prepared in collaboration with the Ministry of Environment, Urbanization and Climate Change. The main objective of the project was to enhance Türkiye's capacity for climate change adaptation and mitigation.

Figure 20. Climate change risk surfaces for the tourism sector under different scenarios



As key deliverables, the project produced three major outputs: the Regional Climate Change Action Plans, the Nature-based Solutions Catalogue, and the Catalogue of Co-benefits of Climate Actions. These documents represent the first comprehensive and integrated set of resources on climate action in Türkiye, addressing both co-benefits and nature-based solutions. They are designed to serve a broad audience, including local governments, the private sector, civil society, and academia. The project was supported by UNDP Türkiye.

The project aimed to:

- Analyse the co-benefits of local climate change actions and produce a Co-benefits Catalogue,
- Conduct vulnerability and risk assessments across seven geographical regions covering multiple sectors (water resources, urban development, tourism and cultural heritage, disaster management, ecosystems and biodiversity, health, agriculture, livestock, and fisheries), and based on these analyses, develop regional climate change action plans (adaptation and mitigation) for each sector,
- Develop a Nature-based Solutions Catalogue.

Figure 21. Climate change habitat adaptation scenarios for the Seyhan Basin



Copernicus Land Monitoring Service – CLC+ Backbone Production, Including Raster and Vector **2020-2022**

Products Based on Satellite Input Data from 2017/2018/2019; 2020–2022

This project aims to provide input for a new European baseline for land cover and land use monitoring, generating Land Cover/Land Use (LC/LU) and Land Use, Land-Use Change and Forestry (LULUCF) information with enhanced resolution.

DKM served as the Türkiye partner of the project, contributing to efforts addressing biodiversity loss, climate change, and land degradation-particularly within the context of the European Green Deal. The main objective of the project was to classify time series of very high-resolution remotely sensed imagery into 18 land cover classes, in accordance with Eagle Standards. Drawing on its expertise in remote sensing and various ecosystems, including agricultural landscapes, DKM provided key data

on vegetation and land cover across Türkiye, serving as the main input for the machine-learning-based classification model and contributing validation data. Within this scope, DKM supplied classification data for both vector and raster products at the national scale. The project was supported by GAF AG.

Figure 22. Classified ‘model training-validation points’



Climate Resilient Agriculture Network 2020–2023

Agriculture is considered one of the most vulnerable sectors to climate change in Türkiye, and numerous studies indicate that agricultural productivity will be impacted by shifts in temperature and precipitation patterns, as well as increasing water scarcity.

The overall objective of this project is to support informed decision-making for climate-resilient agriculture through a well-connected network of non-governmental organizations (NGOs) working in the fields of climate change and agriculture. The specific objectives of the action are to establish a Climate Resilient Agriculture Network composed of NGOs in these fields and to strengthen the network's capacity for communication, outreach, and collaboration in alignment with the EU's environment, climate change, and agriculture *acquis* and policies.

These objectives are being pursued through:

- A well-connected and collaborative network of NGOs working on climate change and agriculture,
- The establishment of an online Climate Resilient Agriculture Platform to disseminate knowledge and best practices and to promote communication and collaboration among diverse actors,
- Enhanced dialogue and cooperation among NGOs, government authorities, academia, and the private sector engaged in climate change and agriculture.

Supported by the Delegation of the European Union to Türkiye, the project also aims to increase knowledge and awareness of climate-resilient agriculture strategies, actions, and practices in Türkiye by incorporating the experience and lessons learned from EU member states.



Monitoring Forest and Maquis Ecosystems Following the Wildfires of 2021 and Informing the Public

2021–2022

The natural and sustainable recovery of forest ecosystems requires making highly complex decisions, including the monitoring and management of ecological processes. To make accurate and realistic predictions, comprehensive and up-to-date databases must be developed. This project aims to establish a monitoring system that actively involves citizens in tracking the recovery process of forest and maquis ecosystems after the 2021 wildfires.



First, a system engaging both experts and citizens was set up to create a database serving as the foundation for monitoring post-fire ecosystem recovery. Additionally, the activities of the General Directorate of Forestry and regional forestry directorates in post-fire areas were monitored and documented. All information and documentation gathered throughout the project are used to inform the public in an accurate and impartial manner. The project is supported by the Support Foundation for Civil Society (STDV).



Preventing Mucilage in the Marmara Sea by Reducing Agricultural Pollution at the Source

2021–2022

The project aimed to enhance the capacity, awareness, and governance of agricultural actors regarding nature-based and good agricultural practices to reduce non-point source agricultural pollution. According to a report by TÜBİTAK MAM (Marmara Research Center) on pollution loads and mitigation measures, the Simav–Susurluk Sub-Basin has the highest total nutrient load among the sub-basins discharging into the Marmara Sea.



©Hasan Yokeş/Baki Yokeş



A baseline survey conducted with farmers revealed their readiness and capacity for implementation, while training activities increased their awareness, knowledge, and motivation. The project was supported by the British Embassy's International Programme Fund.

A replicable governance model was developed based on baseline institutional and legal analyses and was finalized through a workshop involving relevant stakeholders. The model outlined the roles and responsibilities of various actors-such as local authorities, municipalities, development agencies, farming organizations, banks, and the private sector-in areas such as extension, financing, monitoring, and reporting, with the aim of creating an enabling environment for farmers.



Preparation, Implementation and Monitoring of Species Action Plans for Endangered Species in Turkey within the Scope of a New Methodology 2020–2023

The project aimed to establish Türkiye's National Species Conservation Strategy by building upon existing efforts in species conservation and to develop an objective methodology for prioritising endangered species for the preparation of Species Action Plans (SAPs).



It also sought to enhance the capacity of public authorities and other key stakeholders to improve their skills in preparing and implementing SAPs.



As part of the project, DKM conducted an extensive literature review on various species groups, compiling existing knowledge, academic articles, project outputs, and other relevant data to form a comprehensive national information base. Using this foundation, DKM developed an innovative, systematic method to prioritise species across different groups for the development of new SAPs-introducing such a methodology at the national level for the first time.



Northern Bald Ibis
(*Geronticus eremita*)

Accordingly, DKM prepared the Species Prioritisation Guide and led the process of developing Türkiye's first National Species Conservation Strategy in collaboration with the International Union for Conservation of Nature (IUCN). This strategy became one of the first national implementations of IUCN's Global Species Action Plan (GSAP) and was recognised by IUCN as a model effort on the global stage.

In addition, DKM provided trainings and produced informative materials on biodiversity, ecosystem services, ecological restoration, and monitoring for various target groups.



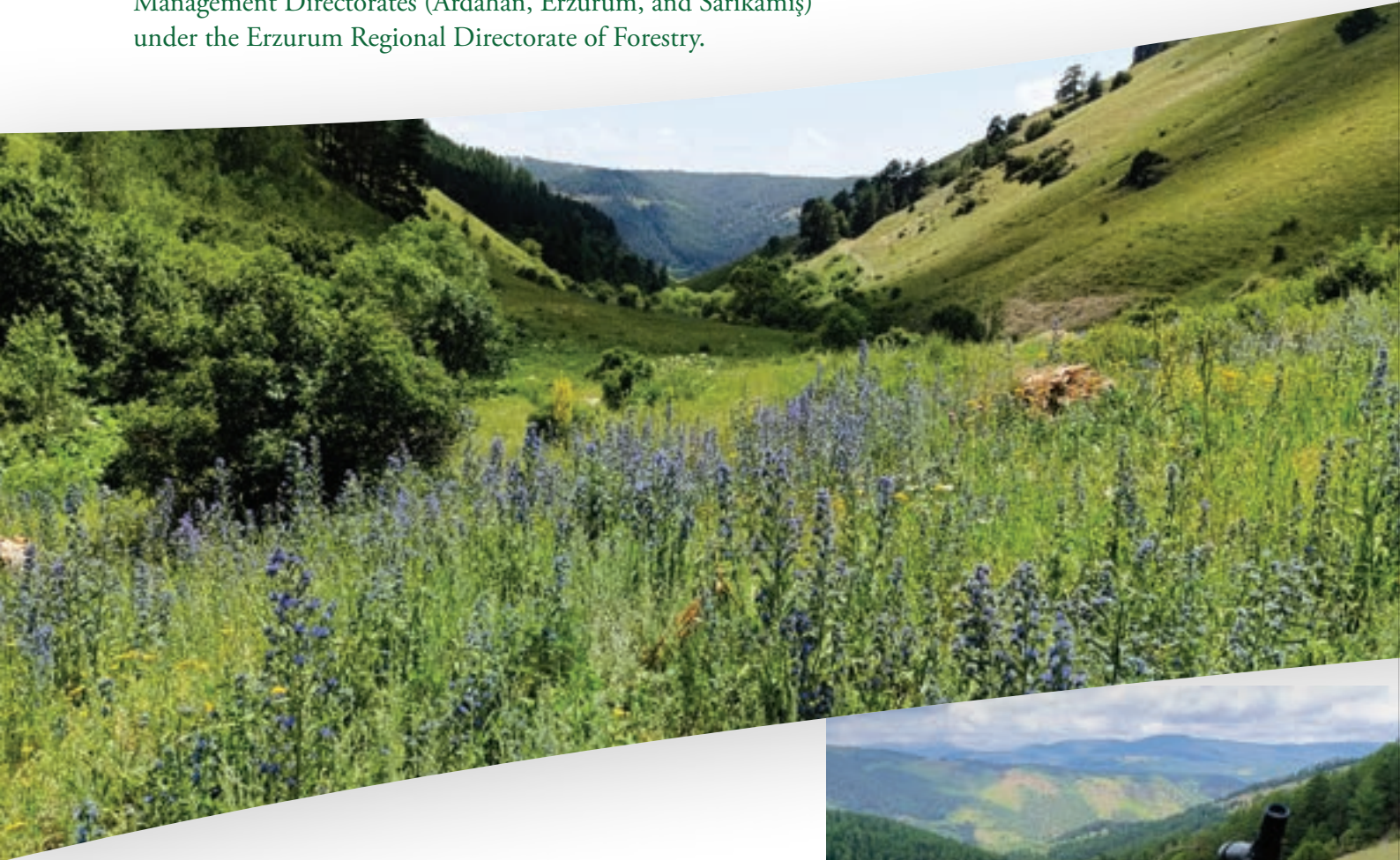
The project was co-financed by the Republic of Türkiye and the European Union under the Instrument for Pre-Accession Assistance (IPA) Programme, and was implemented in collaboration with the Ministry of Environment, Urbanization and Climate Change, the Ministry of Agriculture and Forestry General Directorate of Nature Conservation and National Parks, and the AGRECO Consortium.



Photographs: ©DKM archive

Forest Biodiversity Conservation Offset Projects **2021–2024**

The main objective of the project is to enhance sustainable forest management and biodiversity conservation in three Forest Management Directorates (Ardahan, Erzurum, and Sarıkamış) under the Erzurum Regional Directorate of Forestry.



This overarching goal is supported by three specific objectives: (1) Strengthening forest biodiversity conservation by integrating biodiversity values into forest management plans, (2) Improving biodiversity monitoring approaches in the forest ecosystems of the Erzurum Regional Directorate of Forestry, and (3) Conducting capacity-building activities to support the sustainable management, conservation, and monitoring of forest ecosystems.



The project is supported by the Trans Anatolian Natural Gas Pipeline (TANAP) within the framework of its offset strategy and is implemented by the teams of DKM and Golder.

Photographs: ©Süleyman Ekşioğlu

Resilient Steppe Offset Projects 2021–2024

The main objective of the project is to enhance the resilience of the socio-ecological systems of steppes under changing social, ecological, economic, and climatic conditions in the Acikır Gypsum Steppes, Bursa-Kütahya Serpentine Steppes, and Hafik-Zara Hills Gypsum Steppes.

Under this main objective, the project focuses on three key goals:

1. Developing a rationale for the conservation, sustainable, and regenerative use of steppe ecosystems and biodiversity,
2. Improving the effective management of steppe ecosystems for conservation and sustainable livelihoods, and
3. Conducting capacity-building activities for steppe ecosystem management and conservation, as well as for creating models of holistic and regenerative grazing synergies.

The project is supported by TANAP under its offset strategy and is implemented by DKM and Golder teams.

Photographs: ©DKM archive



Post-Fire Ecosystem Restoration within the Framework of Biodiversity and Ecosystem Services in Mediterranean Forest Ecosystems

2022–2025

The project focuses on two large-scale wildfires that affected 22,000 hectares in Muğla province (Köyceğiz and Marmaris), aiming to restore forest and maquis ecosystems under post-fire conditions by adopting social, ecological, and economic perspectives.



In line with the main goals of the project, a total of 120 days of field work have been carried out for the target species groups in the area. Based on field observations and expert consultations, a draft guide for post-fire management and implementation has been prepared from the perspective of biodiversity and ecosystem services. A workshop held in the region, with the participation of international researchers specializing in Mediterranean ecosystems, will lead to the development of an ecosystem restoration implementation plan, including discussions on its integration into forest management plans.



Salamander species
(*Lyciasalamandra* sp.)



In the upcoming phases of the project, a report will be prepared evaluating the impacts of wildfires on biodiversity in the Mediterranean, as well as restoration implementation plans and monitoring reports for target species. An ecosystem services map, a social assessment report on the needs of rural communities affected by the fire in and around the area, and a guide for integrating ecosystem services restoration into forest management plans will also be produced. All guides and manuals prepared within the scope of the project will be shared through the project's social media accounts and website.

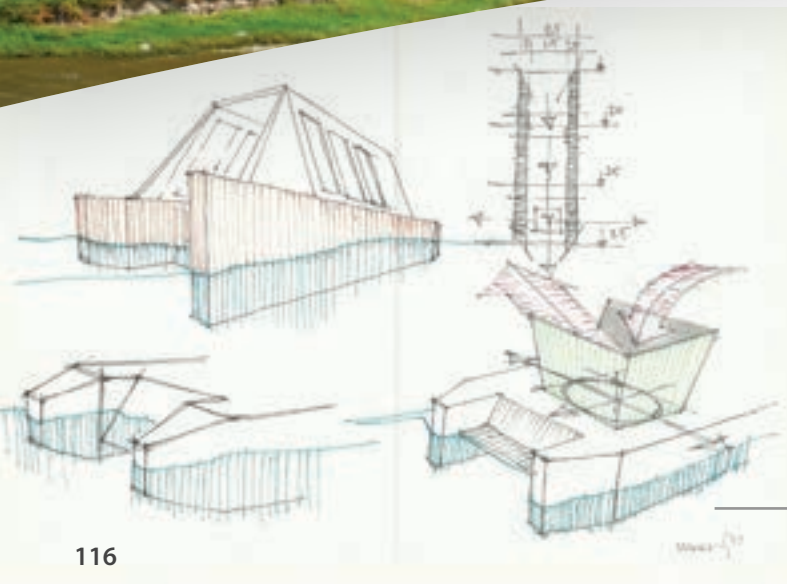
The project is coordinated by the General Directorate of Forestry (GDF) and supported by British Petroleum (BP).

Photographs: ©DKM archive

Climate Action for Hatay Project

2022–2023

The project focused on the United Nations Sustainable Development Goals “11. Sustainable Cities and Communities”, “12. Responsible Consumption and Production”, “13. Climate Action”, and “14. Life Below Water.” Aiming to prevent increasing marine pollution and solid waste problems in the Mediterranean, it targeted the removal of waste discharged into the sea via the Asi River before reaching the sea.



Solid waste, including plastic waste, was captured and removed without human contact using environmentally friendly innovative technologies such as mobile waste collection systems, water robots, and floating waste traps placed at various points along the river.

Figure 23. Mobile waste collection vehicle design
©2023 Musa K. Erdoğan

To raise public awareness and develop community-based solutions, source separation of waste in line with the Zero Waste Guide was promoted. Mobile waste drop-off centres were established at visible points in the city centre, and educational materials were developed to include the concept of zero waste in preschool curricula, aiming to increase societal awareness and foster environmental responsibility in future generations.



Figure 24. Visual materials prepared for training booklets



The project also aimed to reduce the negative impact of the South American-origin invasive alien plant species, Water Hyacinth (*Eichhornia crassipes*), on biodiversity. Due to the effects of climate change, this species expanded its range and invaded the aquatic ecosystem of the Asi River, damaging its natural ecosystem. Mechanical cutting and removal were carried out using amphibious vehicles and various attachments to reduce the plant's covering effect. The solutions developed also effectively remove waste of certain sizes from countries neighbouring the Asi River.

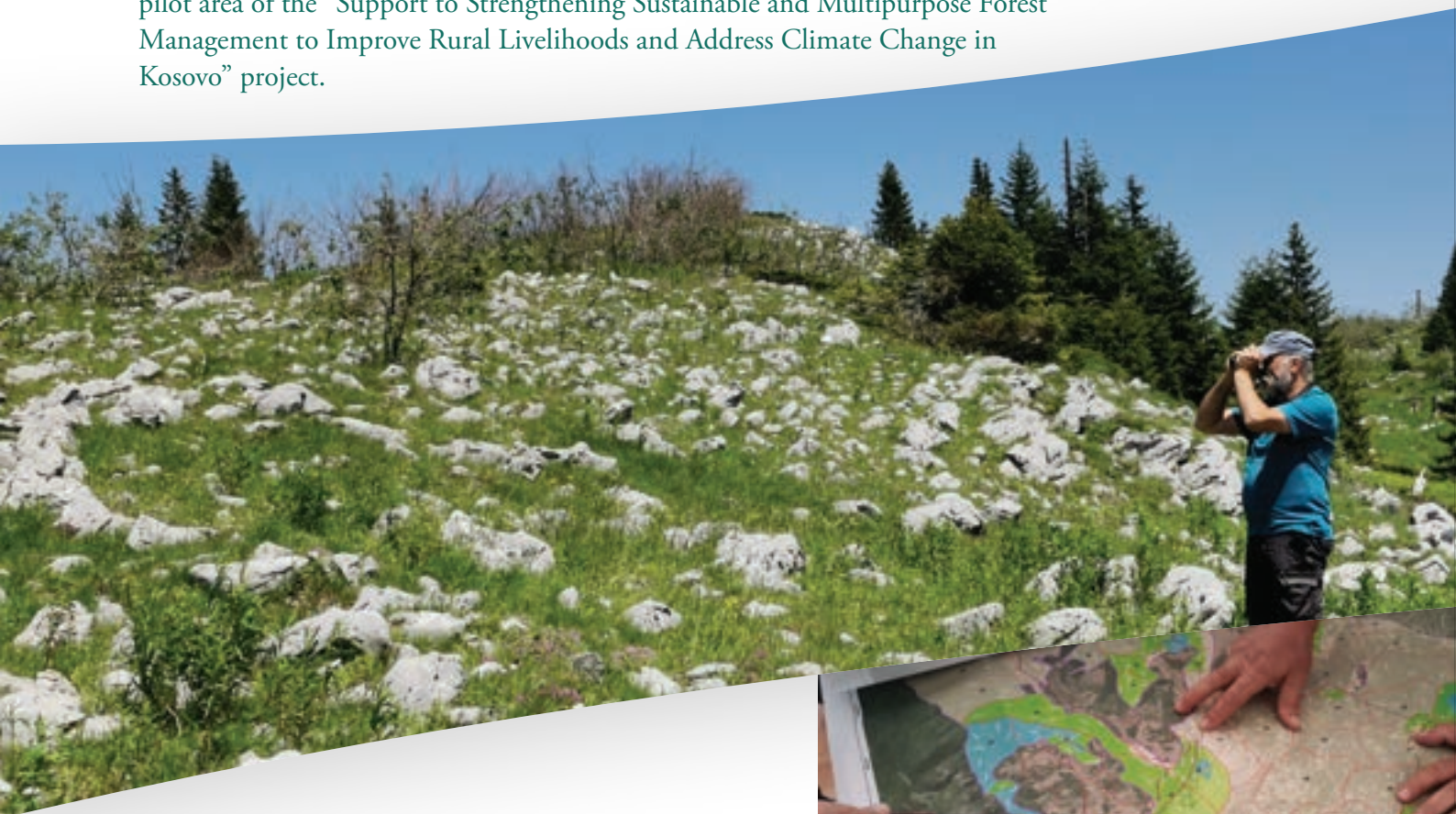
This pioneering initiative in Türkiye serves as a model for future projects.

The project was implemented in collaboration with UNDP Türkiye and DKM.



Integration of Biodiversity Data into Forest Management Plans and Biodiversity Study in the Radusha-Istog Pilot Region **2022–2023**

The main objective of the project was to conduct biodiversity research and integrate biodiversity data into forest management plans in the Radusha-Istog region, the pilot area of the “Support to Strengthening Sustainable and Multipurpose Forest Management to Improve Rural Livelihoods and Address Climate Change in Kosovo” project.



The project targeted three main outputs:

1. Preparation of a work plan and methodology for biodiversity research, defining a database structure and integrating biodiversity data into Multipurpose Forest Management Plans,
2. Data collection through field work for birds, large mammals, and plants, identification of draft conservation areas using species distribution models, and finalization of these areas through stakeholder engagement,
3. Delivery of a training course for Kosovo Forest Agency staff and relevant stakeholders on data collection processes, methods, and guidelines for the integration of biodiversity into Multipurpose Forest Management Plans.

Field work for birds, large mammals, and plants were conducted in the Radusha-Istog Region, and draft conservation zones were identified in 2022 based on data analysis. In 2023, these zones were finalized, forestry practice recommendations were developed, and the forest management plan of Radusha Forest Management Unit (4,459 ha) was revised to ensure the conservation of 1,115 ha of land and 11 species. The project was implemented by DKM in partnership with the Kosovo Forestry Agency with the support of FAO.

Emergency Response Project for the WASH (Water, Sanitation, and Hygiene) Sector 2023

The project was carried out in Kahramanmaraş and Hatay, provinces severely affected by the February 6, 2023 earthquake, and focused on Goal 6 of the United Nations Sustainable Development Goals, “Clean Water and Sanitation.”



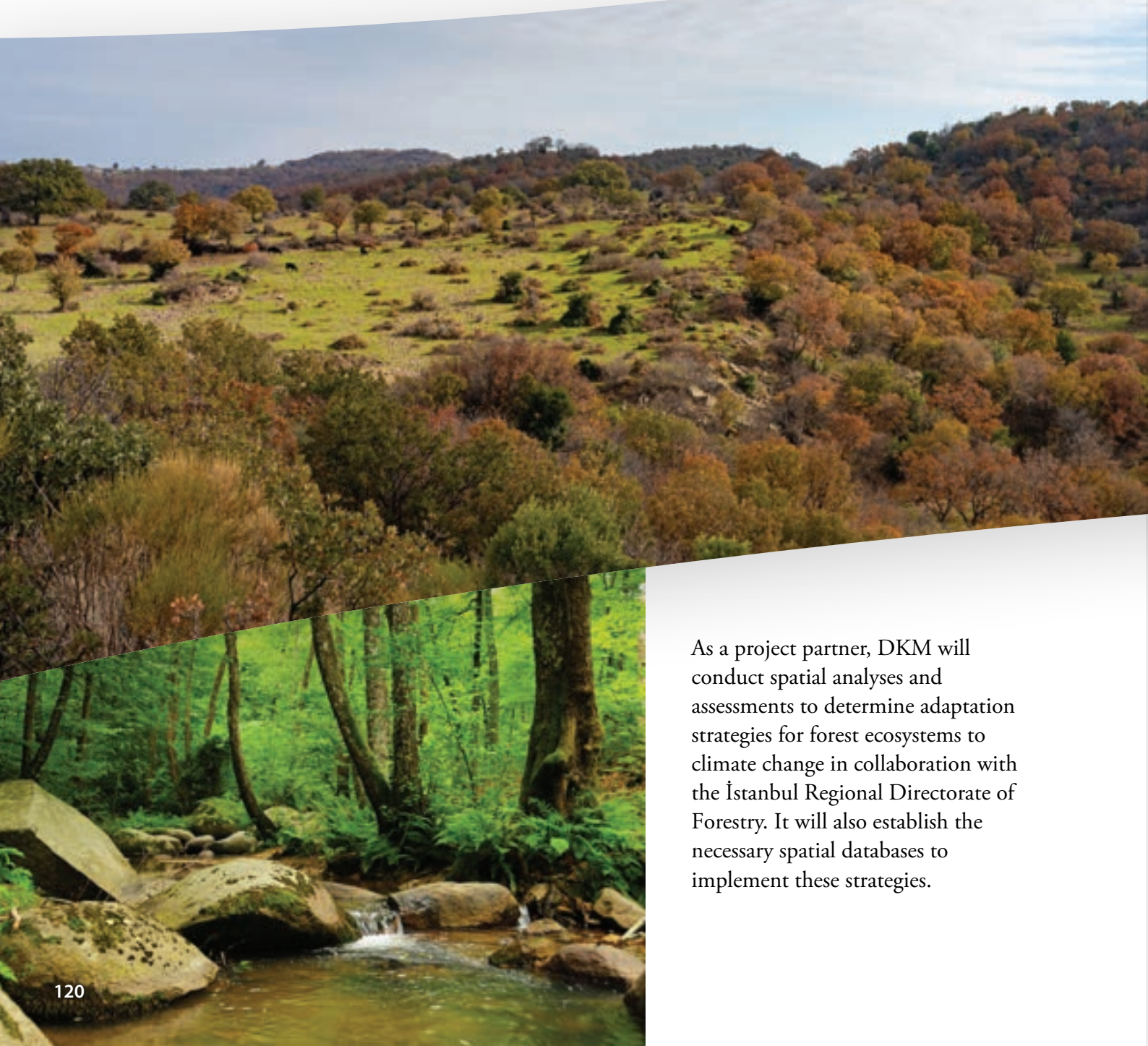
The project's primary activity was to establish clean water and wastewater infrastructure systems in temporary container settlements in the earthquake-affected areas, ensuring the right to access clean water. Laundry facilities were set up, and each container was equipped with water purification devices and air conditioners to meet the essential hygiene and sanitation needs of the displaced communities. The goal was to significantly improve the living conditions of people affected by the earthquake. The project was financed by the United Nations Central Emergency Response Fund (CERF) and implemented in collaboration between UNDP Türkiye and DKM.

Photographs: © DKM archive

Forest Ecosystem Services for Societal Resilience

2024–2025

This project aims to enhance climate change adaptation capacity of forest ecosystems across approximately 630,000 hectares in İstanbul, Edirne, Kırklareli, and Tekirdağ Provinces. By effectively employing Nature-based Solutions, the project seeks to conserve and strengthen the resilience of forest ecosystems, while also focusing on improving the capacity of relevant institutions.



As a project partner, DKM will conduct spatial analyses and assessments to determine adaptation strategies for forest ecosystems to climate change in collaboration with the İstanbul Regional Directorate of Forestry. It will also establish the necessary spatial databases to implement these strategies.

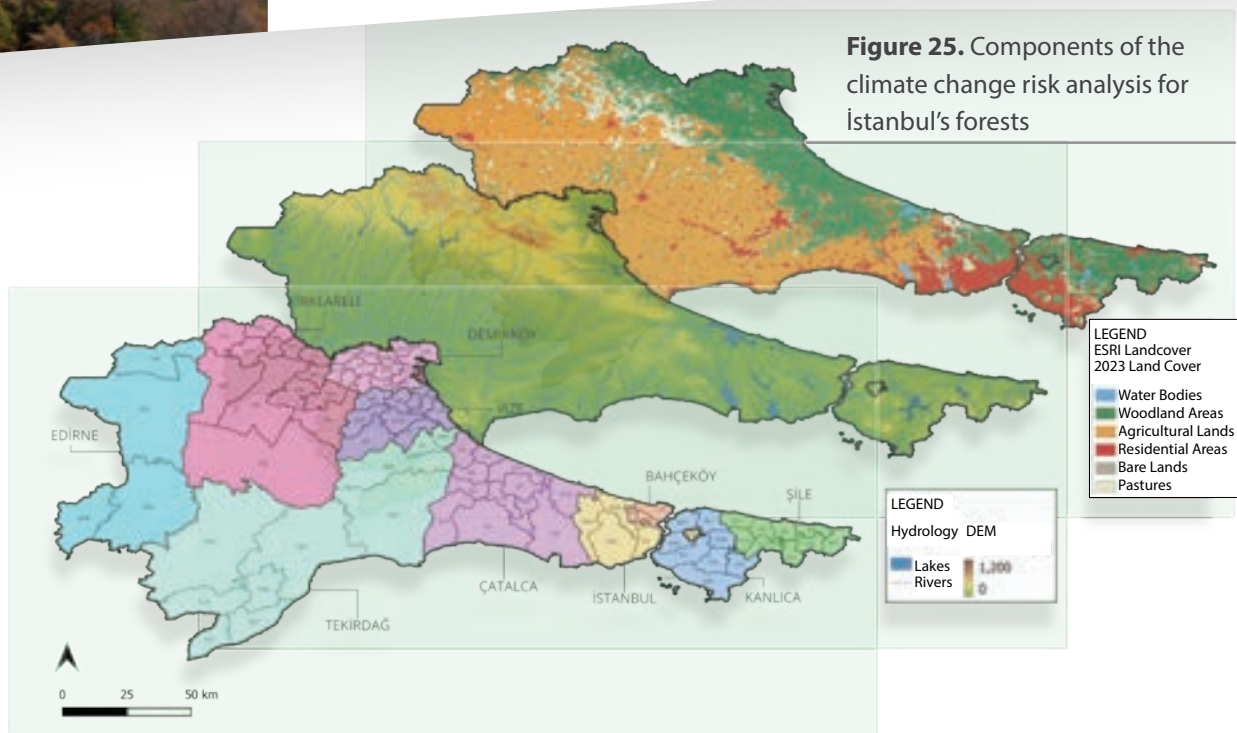
The project will include detailed mapping of ecosystem services supported by advanced modelling techniques and field work, identifying potential vulnerabilities caused by climate change in forest ecosystems. Special education programs will be conducted for local communities and educational institutions in regions experiencing high climate-related vulnerabilities.



These programs will provide participants with comprehensive information on climate change adaptation, ecosystem services, and Nature-based Solutions, aiming to increase awareness in these areas. The project will also contribute to enhancing the capacity of forest sector representatives.

To support the effective implementation of the identified climate adaptation strategies, three pilot initiatives will be launched to strengthen social resilience in the most vulnerable regions. These pilot efforts aim to demonstrate tangible project outcomes and serve as examples for similar future initiatives. The project is implemented in partnership with the İstanbul Regional Directorate of Forestry, DKM, and IUCN Urban Alliance, with support from the European Union's Climate Change Adaptation Grant Programme.

Photographs: ©DKM archive





KONCA ÇALKIVİK

Business and Sustainable Development
Council (BCSD-Türkiye)

Nature Conservation Centre
(DKM), which has been a valued
partner of ours for many years, is a
truly special non-governmental
organization thanks to its dedication
to protecting nature.

As BCSD-Türkiye, we are extremely pleased
with DKM's contributions to our
member companies in their sustainable
development journey, especially on
issues such as becoming 'nature positive,'
preventing biodiversity loss, water-related
risks, and regenerative agriculture. We
sincerely hope our collaboration for the
protection of biodiversity and ecological
balance continues to grow, and we
congratulate DKM on its 20th anniversary
and wish them continued success.

Photographs: ©DKM archive



ATILA URAS

United Nations Environment Programme (UNEP)

– What comes to mind when you think of DKM?

When I think of DKM, the first thing that comes to mind is a modest “centre of excellence.” Honestly, among the groups or institutions I’ve known and worked with in and outside Türkiye, I can’t think of anything quite like it. A team, a family, a circle of friends that is well-educated, of high academic quality, with a strong portfolio in both scientific theory and practical application. It’s a place I wish I had visited more often and spent more time at while I was in Ankara. Anyway, it’s not too late-hopefully, we’ll find more opportunities to meet. (By the way, I should

mention that both my daughter Defne and my son Deniz were so inspired by their short internships at DKM that they decided to pursue education in environmental fields. Defne is graduating this year from UCL’s Physical Geography program, and Deniz has decided to study Biology.)

– Can you suggest a slogan for DKM?

I asked ChatGPT, and it said: “Protecting Nature, Advancing Science: Where Conservation Thrives.” But I think “You’d better call DKM!” isn’t bad either. For anything you need in nature and species conservation, environmental planning, or climate change-it’s the one-stop shop, with quality guaranteed!

– What would you like to say for DKM’s 20th anniversary?

First, I prefer not to believe it’s already been 20 years-it feels like just yesterday! In a country like Türkiye, where the mentality of “let’s develop first, then think about the environment” has dominated for decades, I wholeheartedly congratulate DKM for standing strong without compromise, staying on top of global developments, and tirelessly working to protect, manage, and use the country’s unique nature and natural reserves wisely. I know you’ll keep this spirit and passion alive as you move forward.

From Here On

Whether viewed through the lens of sustainable development, sustainable natural resource management, nature conservation, or biodiversity conservation, it is of vital importance that the relationship between people and nature is grounded on a sounder and meaningful basis in the coming period. In particular, we need this societal foundation in order to tackle the two major crises we face today: the biodiversity crisis and the climate crisis.

Under the theme of “from here on,” the Nature Conservation Centre (DKM) will prioritise strengthening this societal foundation. This entails improving our biodiversity information infrastructure, filling existing gaps, facilitating public access to this information, and developing the tools necessary for its effective use.

Red List assessments, which reveal species’ risk of extinction, are a top priority in this regard. Since 2011, DKM has led pioneering efforts in this area, beginning with the national Red List assessment for butterflies. DKM’s current and future plans include preparing national Red Lists for various taxonomic groups in Türkiye, in line with the approaches developed by IUCN and in collaboration with relevant institutions and experts. DKM is already coordinating the national Red List assessment of endemic plant species and supporting the assessment processes for marine and freshwater fish. In the coming period, updating the butterfly Red List and initiating national Red Lists for near-endemic plant species, birds, large mammals, small mammals, and bats will be among DKM’s top priorities.

Another major knowledge gap in Türkiye is the identification of areas suitable for conservation and sustainable natural resource use through participatory processes and scientifically grounded, objective approaches. Systematic Conservation Planning (SCP) approach has been adopted by the Ministry of Agriculture and Forestry as the official methodology for identifying potential Natura 2000 areas in Türkiye. Since its establishment, DKM has

embraced the SCP approach and continuously improved it to meet global standards. In the coming period, DKM plans to carry out a national-scale SCP initiative. The results of this major effort will include the identification of priority conservation areas and the development of spatial and sectoral strategies for their protection. As in all of its projects, DKM will implement this work through inclusive processes that ensure gender equality and produce actionable outputs.

To ensure that the findings translate into tangible conservation actions, DKM plans to continue relying on two main instruments:

- Species, ecosystem, and site-based conservation actions
- Integration of conservation approaches into sectors

The first instrument may be seen as a continuation of traditional conservation approaches. While addressing threats to biodiversity, DKM will also assess conservation opportunities and avenues for collaboration, implementing conservation actions from the field to the policy level. To ensure the effective implementation of the second instrument, DKM will begin by advocating for policy and legislative changes in relevant sectors. Another key activity under this heading will be collaboration with private sector actors, working to transform their planning and operational tools to support conservation goals.

As part of our ambition to expand our science-based, collaborative conservation approaches, tools, and experience developed over the past 20 years, we aim to establish a training centre. This initiative, to be launched as DKM Academy, is something we hope to realise together with you.

20 Years of the Nature Conservation Centre



Nature Conservation Centre (DKM)

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DogaKorumaMerkezi