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TECHNICAL ASSISTANCE FOR THE PREPARATION OF MERIÇ-ERGENE BASIN FLOOD RISK MANAGEMENT PLAN

Contract no: TR2018ESOPMIA1.17/SER/28

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Activity 4.4
STRATEGIC ENVIRONMENTAL ASSESSMENT REPORT

19/03/2025

PROJECT DETAILS

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Disclaimer	The contents of this report do not necessarily reflect the official position of the European Union or the Republic of Türkiye. The responsibility for the information and views expressed lies entirely with the author(s).

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ABBREVIATIONS

AFAD	Disaster and Emergency Management Presidency
CA	Contracting Authority
CE	Critically endangered, Species in extreme danger of extinction in the wild
COD	Chemical Oxygen Demand
CORINE	Coordination of Environmental Information
DPD	Deputy Project Director
EEA	European Environment Agency
EN	Endangered, Species in very great danger of extinction in the wild
EU	European Union
FD	Flood Directive
FRMP	Flood Risk Management Plan
GD	General Directorate
GDM	General Directorate of Meteorology
General Directorate of DSİ	General Directorate of State Hydraulic Works
GIS	Geographic Information System
IUCN	World Union for Conservation of Nature and Natural Resources
LC	Minimum concern, common species.
MDG	Millennium Development Goals
MoAF	Ministry of Agriculture and Forestry
MoEUCC	Ministry of Environment, Urbanisation and Climate Change
MOS	Meteorological Observation Station
MTA	General Directorate of Mineral Research and Exploration
NT	Near Threatened, Species that are not currently threatened but are candidates to be categorised VU, EN or CR in the near future
OIZ	Organised Industrial Zones
PFRA	Preliminary Flood Risk Assessment
PM	Project Manager
PSFRA	Area with Potential Significant Flood Risk
RBMP	River Basin Management Plan

SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
SEAR	Strategic Environmental Assessment Report
SGS	Stream Gauging Station
SYGM	General Directorate of Water Management
TL	Team Leader
TURKSTAT	Turkish Statistical Institute
UN	United Nations
VU	Vulnerable, Species in great danger of extinction in the wild.
WDA	Wildlife Development Area

SUMMARY

Significantly increasing adverse economic, social and environmental impacts in Türkiye in recent years have led to an increase in the incidence of flood events. Increasing climate change increases the frequency and intensity of floods. This increase in flood events leads to serious life consequences such as loss of life and property. Careful planning and analysis is necessary to support flood prevention decisions, taking into account technical, economic and environmental aspects in a given social, cultural and institutional context. Strategic Environmental Assessment (SEA) is a strategic decision-making tool that draws on plans and analyses for river basin management plans. SEA is also prepared to contribute to poverty reduction in river basins, good basin management and sustainable use of land and water resources. Intensive and timely consultation with all stakeholders is crucial for the development and sustainable use of water resources in river basins.

Türkiye is required to align with the European Union (EU) Flood Risk Assessment and Management Directive 2007/60/EC of 23 October 2007 and prepare an implementation plan as part of the accession process. This directive is recognised as a key element of Europe's flood risk management policy.

The EU Flood Directive (2007/60/EC) is an important component of the European flood risk management policy which requires Türkiye to harmonise with this directive and prepare an implementation plan as part of the accession process. In our country, with the 'Regulation on Preparation, Implementation and Monitoring of Flood Management Plans' published in the Official Gazette dated 12 May 2016 and numbered 29710, the flood legislation of our country has been harmonised with the Flood Directive (2007/60/EC) of the European Parliament and Council. In this direction, the Flood Management Plans works started in 25 basins in 2013 are aimed to be completed until 2025 throughout Türkiye. The Meriç-Ergene Basin Flood Management Plan has also been prepared in line with this target

In accordance with the EU Flood Risk Assessment and Management Directive (No. 2007/60/EC dated 23 October 2007), the preparation of Flood Risk Management Plans (FRMP) for all basins in Türkiye (except the Meriç-Ergene Basin) started in 2013. The Meriç-Ergene Basin FRMP studies have not yet been completed, and the Meriç River is of great importance as it is the only transboundary water source with the EU member states. The Evros River originates in Bulgaria and forms a 203 km border between Greece and Türkiye. The preparation and implementation of the FRMP for the Meriç-Ergene Basin will ensure that the works in the last river basin are completed in accordance with the EU Flood Directive (TD). The work in this framework will support the national reform process and contribute to the finalization of the planning process and action framework for flood risk management.

The 'Regulation on Strategic Environmental Assessment', which entered into force in the Official Gazette dated 08.04.2017 and numbered 30032, introduced the obligation to prepare a Strategic Environmental Assessment Report for management plans. Within the scope of Article 5 of the relevant regulation, the definition of Strategic Environmental Assessment is stated as follows:

"*Strategic Environmental Assessment (SEA): Environmental assessment studies, including a written report, carried out with a participatory approach from the beginning of the planning/programming process of plans/programmes subject to approval/acceptance to be prepared by public institutions/organisations for the sectors covered by this By-Law, to ensure that environmental values are integrated into the plan/programme before its approval/acceptance, to minimise the possible negative environmental impacts of the plan/programme, to maximise its positive impacts and to assist decision-makers*"

In Article 6 of the same regulation, the obligation to prepare an SEA Report has been introduced and the relevant article is given below:

"From the stage when it is decided to initiate a planning/programming process within the scope of Strategic Environmental Assessment, the competent authority is obliged to notify the Ministry of the initiation of the said planning/programming process, to carry out the SEA process concurrently with the planning/programming process, to prepare/ have the SEA Report prepared and to submit this report to the Ministry before the legal procedure for the approval of the plan/programme is initiated

The contracting authority of the 'Technical Assistance for the Preparation of the Flood Risk Management Plan for the Meriç-Ergene Basin' Project, which is carried out to prepare a Flood Risk Management Plan in the Meriç-Ergene Basin, one of the 25 water basins of Türkiye, is the Ministry of Environment, Urbanization and Climate Change and the Department of European Union Investments. The final beneficiary of the project is the General Directorate of Water Management of the Ministry of Agriculture and Forestry. The project is implemented by a consortium consisting of DAI, SU-YAPI Engineering and Consultancy Inc., SU PEK Proje, SUMODEL Engineering and Consultancy Ltd. Şti. and ÇINAR Engineering and Consultancy Inc.

Meriç-Ergene Basin Flood Management Plan is included in the scope of Annex-1 Strategic Environmental Assessment Plan/Programme List of the 'Regulation on Strategic Environmental Assessment', which entered into force after being published in the Official Gazette dated 08.04.2017 and numbered 30032. In this framework, it is a legal obligation to prepare Strategic Environmental Assessment (SEA) for Flood Management Plans.

The Project consists of six (6) activity sets, of which four (4) sets are related to the preparation of the Strategic Environmental Assessment Report (SEA). SEA is carried out to ensure the integration of environmental factors into the plan or programme SEA is carried out concurrently with the project to minimise risks and provide feedback to planners. At the same time, SEA will be conducted with the aim of minimising potential negative environmental impacts and maximising positive impacts. The SEA will include a participatory environmental assessment and preparation of a written report. Activity Set 4 will include all stages of the SEA process implemented on the basis of the prescribed methodologies and national regulation.

According to the By-Law, SEA shall include 'environmental assessment studies, including a written report, carried out with a participatory approach from the beginning of the planning/programming process of plans/programmes subject to approval/acceptance to be prepared by public institutions/organisations for the sectors covered by the By-Law, to ensure that environmental values are integrated into the plan/programme before its approval/acceptance, to minimise the possible negative environmental impacts of the plan/programme, to maximise its positive impacts and to assist decision-makers'.

In this context, SEA studies have been initiated. The Scoping Report has been prepared in the light of the topics set out in Annex-3 of the Regulation on Strategic Environmental Assessment and includes the topics to be followed in the following stages. With the Scoping Report, the paths to be followed for SEA were determined and submitted to the opinion of the administration.

One of the activities planned to be carried out during the preparation of the Scoping Report for Activity Set four (4) within the scope of the Project is the consultation meeting between central and basin level organisations and stakeholders. This meeting was organised following the preparation and web publication of the first draft of the SEA Scoping Report in order to receive

the opinions and contributions of the central and basin level stakeholder organisations on the key environmental issues related to the basin and the current status of the basin.

The scoping meeting was held in Edirne Province on 13 November 2023 with the representatives of basin-scale institutions and organisations. The findings obtained after the meeting were evaluated, the draft version of the Scoping Report was updated considering the data and information it contains and the report was finalised. The stakeholders of the project provided feedback to the Draft Scoping Report and these feedbacks were integrated into the report within the framework of consultation (web-based and on-site consultations). The expectations and inputs of central and basin level institutions and organisations were used to set environmental objectives as well as environmental protection and enhancement activities were integrated into the report.

Following the Final Scoping Report, SEA Report has been prepared as the final output of the studies carried out under Activity Set four (4). The SEA Report will cover the contents listed below, taking into account the issues set out in Annex 4 of the Strategic Environmental Assessment Regulation

- The purpose, scope and process of Strategic Environmental Assessment Report,
- Flood Risk Management Plan purpose, scope, objective, process and relationship with other related plans/programmes,
- Current environmental and health situation,
- How the existing environment will develop if the plan is not implemented,
- Environmental objectives and indicators of the FRMP,
- Assessment in terms of key issues and related problems identified as basin-specific during the scoping phase,
- Identification of potential impacts on the environment and health during the implementation of the FRMP,
- Determination of mitigation measures,
- Evaluation of Plan Alternatives
- Include explanations of how the assessments were carried out and how the necessary data were collected, indicating the difficulties encountered,
- Adding a statement on the organisation of the Consultation Meeting,
- Statement on monitoring of environmental values,
- Conclusion and summary evaluation.

In order to evaluate the environmental impacts and sustainability of the plan, the potential impacts on the environment and health were assessed during the Strategic Environmental Assessment process, and recommendations were developed to reduce and prevent these impacts. The basic findings across the basin, the measures to be taken within the scope of the plan and the environmental measures recommended during the Strategic Environmental Assessment process are given below.

Basic Findings:

As a result of the analyses and assessments conducted within the scope of the SEA process, the main environmental problems that stand out in relation to flood risk in the Meriç-Ergene Basin are as follows:

- **Soil and water resources:** Intensive agricultural activity in the basin, erosion and damage to agricultural lands after floods are among the common problems.

- **Biodiversity:** Flood areas serve as natural habitats for many sensitive flora and fauna species. Interventions carry the risk of disrupting the balance of these ecosystems.
- **Climate change:** Changing precipitation regimes increase the frequency and severity of floods; existing infrastructures may be inadequate against these sudden changes.
- **Settlement areas and infrastructure:** Due to unplanned construction and settlements close to the floodplain, the risk of loss of life and property is high; infrastructure is seriously affected by this situation.

Structural and Technical Measures to be Taken Within the Scope of the Plan:

Within the scope of the Flood Risk Management Plan, the following measures will be implemented in order to reduce the negative effects of floods and ensure social safety:

- **Passage Structure Improvement:** The water passage capacity of existing culverts, bridges, etc. will be increased.
- **Levee Arrangement / Production**: Flood control will be ensured by the construction of new dikes and the reinforcement of existing ones.
- **Bed Arrangement:** Widening, deepening and fortification operations will be carried out in stream beds.
- **Bed Cleaning**: Regular water flow will be ensured by cleaning the accumulated material and obstacles in stream beds.
- **Upper Basin Measures:** Soil conservation practices will be carried out in the upper basin in order to reduce surface flow and prevent erosion.
- **Establishment of Flood Forecast and Early Warning Systems:** Monitoring and communication systems will be developed to predict possible floods and warn the public in a timely manner.
- **Education and Information Activities:** Training activities will be carried out to increase the awareness of local people about flood risks and to enable them to respond correctly in times of crisis.

Recommended Environmental Measures in the Strategical Environmental Assesment Process:

In addition to the engineering practices above, the following strategies are recommended to support environmental sustainability:

- **Nature-sensitive flood management:** Protection of natural floodplains and restoration of wetlands should be encouraged.
- **Establishment of an environmental monitoring system:** The effects of projects on the environment should be regularly monitored; interventions should be made when necessary
- **Public awareness and participation:** Active participation of local people in planning processes should be ensured; information should be provided about risks.
- **Ecosystem-based solutions:** Solutions that utilize natural barriers and ecosystem services should be adopted.
- **Agricultural and land use planning:** Land use should be directed by taking into account erosion prevention practices and flood risk.

1. PURPOSE, SCOPE AND PROCESS OF MERİÇ ERGENE BASIN STRATEGIC ENVIRONMENTAL ASSESSMENT REPORT

1.1. Purpose of the Strategic Environmental Assessment Report

Within the framework of the "Regulation on Strategic Environmental Assessment", which entered into force in the Official Gazette ***dated 08.04.2017*** and ***numbered 30032***, the obligation to prepare a Strategic Environmental Assessment (SEA) Report has been introduced. The definition of SEA in the Regulation is given as follows:

"*Strategic Environmental Assessment (SEA): Environmental assessment studies, including a written report, carried out with a participatory approach from the beginning of the planning/programming process of plans/programmes subject to approval/acceptance to be prepared by public institutions/organisations for the sectors covered by this By-Law, to ensure that environmental values are integrated into the plan/programme before its approval/acceptance, to minimise the possible negative environmental impacts of the plan/programme, to maximise its positive impacts and to assist decision-makers*"

Article 6 of the aforementioned regulation stipulates the obligation to prepare SEA Report for Flood Management Plans and the relevant article reads as follows Article 6 of the aforementioned regulation imposes the obligation to prepare SEA Report for Flood Management Plans and the relevant article reads as follows; "The competent authority is obliged to notify the Ministry of the initiation of a planning/programming process within the scope of Strategic Environmental Assessment, to carry out the SEA process simultaneously with the planning/programming process, to prepare/ have the SEA Report prepared and to submit this report to the Ministry before the legal procedure for the approval of the plan/programme is initiated."

The project of Preparation of Flood Risk Management Plan in Meriç-Ergene Basin is considered as one of the plans within the scope of Annex-1 List of Plans/Programmes for Strategic Environmental Assessment, subject to the "Regulation on Strategic Environmental Assessment". Therefore, the preparation of the Flood Management Plan within the scope of the project has become mandatory in order to comply with the requirements of the relevant regulation. In this process, Strategic Environmental Assessment studies were initiated by preparing a Draft Scoping Report according to Annex-3 of the relevant regulation. The Draft Scoping Report was revised and finalised in line with the information obtained during stakeholder consultation meetings.

Following the Scoping Report process, Draft SEA Report studies were initiated in line with Annex-4 of the Regulation on Strategic Environmental Assessment. The purpose of the SEA Report is to determine the scope, objectives and alternatives of the Meriç-Ergene Basin Flood Management Plan; to reveal the relationship of this plan with other relevant plans and to determine the necessary mitigation measures and precautions to prevent and reduce the negative impacts that may occur on the environment during the implementation of the plan, taking into account the current environmental and social status of the basin. During the assessment process, the possible significant impacts of the plan on biodiversity, flora, fauna, population, health, soil, water, air, climate factors, cultural heritage, landscape and environment, as well as social and economic impacts were analysed in detail.

1.2. Scope of Strategic Environmental Assessment

During the SEA Scoping studies, priority issues to be addressed in the SEA Report were identified and a scoping matrix was prepared (SeeTable 1). In this table, the impact severity and duration of the impact were also evaluated by taking foreign expert opinion.

Table 1 . Scoping Matrix

Environmental and Social Components	Description of Impacts	Impact Significance	Options and Measures to be Considered in the Plan and/or SEA	Impact After Measures to be Taken Severity	Duration of Effect	National and Local Scale Related Objectives and Targets	Stakeholders to be Consulted	Data and Information Sources
Surface and Underground Water Resources	• Physical and chemical changes in surface and ground waters due to flooding • Spread of possible pollutants arising from land use and anthropogenic activities in the region (agriculture, animal husbandry, industry, mining, etc.) to the flood area	• Centre	• Controlling the alteration of the physical structure due to mining activities, tourism activities, housing etc, • Minimisation/prevention and monitoring of pollutant discharges to stream/river beds, • Ensuring that agricultural, animal husbandry, industrial, mining, etc. activities in the vicinity of rivers are carried out in a controlled manner, • Monitoring the amount of life water released from structures such as dams and regulators, • Ensuring that the structures to be built on streams/rivers are constructed in accordance with the physical characteristics of the water source, • Use of disused mines, agricultural areas and treasury lands close to the stream bed as storage facilities for flood defence purposes.	• Low	• Medium Term	• Preventing / minimising the negative impact of floods on water resources and consequently on human health, urban uses, ecosystem, agriculture, animal husbandry, tourism, mining, industry, etc. in the region on the basis of all elements through measures to be determined separately at the basin, sub-basin and provinces and/or districts level, • In order to prevent the possible effects of floods, planning level studies should be carried out to take measures to eliminate flood-causing structure or stream bed deterioration (preliminary flood risk assessment, flood hazard maps, establishment of flood early warning systems, creation of delay reservoirs and storage systems, coating systems to reduce the flow coefficient, producing technical solutions such as stream rehabilitation, dams, ponds, regulators, reversal dykes, flood embankments, flood embankments, regulation of the river bed and banks, etc.). construction and periodic maintenance of water structures, etc. • Basin-based management of water resources under the supervision and coordination of the central administration with a participatory and holistic approach for the sustainable use of water resources in terms of quantity, quality and ecosystems, taking into account the current and future water potential and the great differences in climate conditions in different geographical regions, • Preparation of emergency action plans for dams, lakes and reservoirs on a facility basis taking into account the dam basin, preparation of safety action plans against flood risk in large dams, ensuring the protection of lakes, drinking water facilities, YAS wells and reservoir maslaks against accidents and sabotage-induced pollution.	• Republic of Türkiye Ministry of Agriculture and Forestry, General Directorate of Water Management, • General Directorate of State Hydraulic Works, General Directorate of Agricultural Reform, • Republic of Türkiye Ministry of Environment, Urbanisation and Climate Change, • Local Governments	• Technical Assistance for Capacity Building on Water Quality Monitoring Project Final Report • Basin Protection Action Plans • Meriç-Ergene Basin Master Plan • Water Quality Action Plans • Sectoral Water Allocation Plans • Action Plan for Rehabilitation of Mine Sites • Sensitive Area Project Basin Action Plans • River Basin Management Plans
Impact on biodiversity, flora and fauna	• Destruction/extinction of endemic, protected, sensitive species and/or habitats in the region due to flooding, • Impact on aquatic ecosystem due to flooding, • Flood Impact of protection/prevention structures on terrestrial and aquatic biodiversity. • Flooding replenishes the ecosystem by bringing nutrients and components necessary for life. • Flood waters are absorbed	• High	• Identification of impacts on nationally and internationally designated protected areas, important nature areas and species in the basin and prevention/mitigation of these impacts, • Construction of flood prevention structures in accordance with the physical and hydrological structure of the region and protection of habitats and biodiversity during construction and operation activities, • Regular monitoring of the amount of water to be released for the natural ecosystem in structures such as dams, dykes, regulators, etc. through AGIs.	• Low	• Medium Term	• Determination, implementation and monitoring of basin-wide measures to protect species and habitats of national and international importance from floods, to ensure their sustainability and to prevent their destruction, • Ensuring coordination between institutions on the protection and sustainable use of biological diversity, • Identifying ecological, physical and social processes that negatively affect the biodiversity of steppe ecosystems such as grazing, drought, desertification, desertification, salination, floods, fires, tourism, agricultural conversion or abandonment, especially ecosystem structure and functioning, and developing measures, • Implementation of measures for the conservation, sustainability and mitigation of threats to inland water	• Republic of Türkiye Ministry of Agriculture and Forestry, (General Directorate of Water Management, General Directorate of Nature Conservation and National Parks, • General Directorate of State Hydraulic Works	• National Biodiversity Action Plan 2018 - 2028 (Republic of Türkiye Ministry of Agriculture and Forestry, 2019) • National Biodiversity Strategy and Action Plan, 2007, DKMP General Directorate • UN 2030 Sustainable Development Goals

Environmental and Social Components	Description of Impacts	Impact Significance	Options and Measures to be Considered in the Plan and/or SEA	Impact After Measures to be Taken Severity	Duration of Effect	National and Local Scale Related Objectives and Targets	Stakeholders to be Consulted	Data and Information Sources
	into the ground, then filtered through soil and rock layers and eventually reach underground aquifers. Flooding can replenish groundwater resources. • Floods increase fish stocks,					biodiversity.		
Population and Public Health	• The occurrence of injuries, deaths and property losses due to flood disasters, • Impact on human health due to pollutants emitted by floods, • The occurrence of diseases in the region due to infrastructure facilities such as drinking water, sewerage, etc. damaged due to flooding, restriction of access to clean water • Environmental problems such as pollution and noise during the construction of flood prevention structures	• High	• Increasing infectious diseases and health risks with the change in hygienic conditions due to floods and raising awareness of the local people in this context, • Extending meteorological observation systems throughout Türkiye and increasing the predictive capability of early warning systems of weather forecasting models, • Strengthening health services to provide faster and better quality health services in emergencies and disasters, • Preventing water-borne diseases by monitoring the quality of water resources. • Integrating nature-based flood prevention solutions into flood management • EIA processes for flood prevention structures should take into account cumulative impacts	• Low	• Medium Term	• Preventing/ minimising loss of life and property through measures to be taken against floods, • Reducing the effects of emergencies and disasters, reducing the negative effects of environmental hazards on health, • Reducing the impacts of extreme weather events (extreme precipitation, extreme hot and cold weather, air pollution) and natural disasters (floods, fires, etc.) on human health, • Strengthening the institutional infrastructure and increasing intra- and inter-institutional cooperation for the follow-up of diseases that occur and/or increase in Türkiye as a result of climate change, • Raising public awareness for more effective protection against the adverse health effects of climate change.	• Republic of Türkiye Ministry of Health • Republic of Türkiye Ministry of Interior Disaster and Emergency Management Presidency • Republic of Türkiye Ministry of Treasury and Finance • Local governments	• Republic of Türkiye Ministry of Health 2019-2023 Strategic Plan • UN 2030 Sustainable Development Goals
Socio-Economic Characteristics	• Economic losses due to flood disasters (loss of agricultural areas/products, loss of pasture areas, impact on industrial facilities, loss of aquaculture products, etc.) • Impact of the sectors affected by the flood disaster on unemployment, • Impact of floods on the decline in the level of life in rural areas, • Negative impact on tourism elements due to flood disaster. • Positive effects of floods on bilateral relations of states.	• High	• Identifying, eliminating and taking measures to prevent economic losses caused by flood disasters. • Minimising impacts on public health and safety by using an early warning system • Co-operation with Bulgaria and Greece on flood prevention within the scope of bilateral agreements	• Low	• Medium Term	• Preventing/ minimising the material losses due to flood disasters and the impact on the livelihoods of the people, • Sustainable use of increasingly important soil and water resources, food security and keeping the agricultural population in place, increasing rural development support in our country, increasing the use of technology and information in agriculture, enabling the use of inputs, diversifying marketing channels and directing production in line with demand.	• Republic of Türkiye Ministry of Treasury and Finance • Republic of Türkiye Ministry of Agriculture and Forestry • Republic of Türkiye Ministry of Culture and Tourism	• Government Programmes • Development Plan • Basin Protection Action Plans • Meriç-Ergene Basin Master Plan • Regional Plan
Climate Change	• Climate change causing floods • Flood protection structures trigger climate change.	• Low	• Preventing/ minimising the impact on the environment and society by taking climate change into consideration within the scope of taking flood measures. • Integration of climate change parameters into hydrological and hydrodynamic	• Low	• Long Term	• Preventing/ minimising the impact of all environmental factors and living organisms from floods and flood disasters likely to occur due to climate change, • Integrated management of water resources in water basins for adaptation to climate change,	• Ministry of Agriculture and Forestry • General Directorate of Meteorology	• UNFCCC, Seventh National Communication of the Republic of Türkiye to the United Nations Framework Convention on Climate Change

Environmental and Social Components	Description of Impacts	Impact Significance	Options and Measures to be Considered in the Plan and/or SEA	Impact After Measures to be Taken Severity	Duration of Effect	National and Local Scale Related Objectives and Targets	Stakeholders to be Consulted	Data and Information Sources
			modelling			• Establishment, dissemination and development of monitoring, forecasting and early warning systems for natural disasters related to climate change, • Strengthening capacity, inter-institutional co-operation and co-ordination on adaptation to climate change in water resources management, • Carrying out studies for the establishment of Flood Information System, • Extending meteorological observation systems throughout Türkiye and increasing the predictive capability of early warning systems of weather forecasting models. • Developing flexible and harmonised strategies according to climate change scenarios		• Climate Change Action Plan 2011-2023 • Türkiye's Climate Change Adaptation Strategy and Action Plan 2011 - 2023 • Meriç-Ergene Basin Master Plan
Land Use and Infrastructure	• Triggering environmental pollution problems due to unplanned urbanisation, insufficient infrastructure (rainwater sewerage system, etc.), • Structures and arrangements to prevent the flow of water to the river beds, • Affection of physical structures such as bridges, dykes, dams, etc. due to flooding, • Failure to consider long term flood flows in art structures (bridges, culverts, etc.) constructed in river beds.	• Centre	• Consideration of long term flood flows in all land uses and constructions planned around areas with high flood risk, • Creating planned and controlled development areas in areas to be opened for new settlements. • Consideration of long-term meteorological data while constructing art structures, • Preparation of institutional capacity and strengthening plans of local administrations and responsible administrations in existing constructions, • Analysing the condition of the existing structural elements, making maintenance, repair, renovation and, if necessary, reconstruction decisions and defining solutions.	• Low	• Long Term	• Ensuring that land uses and infrastructure facilities are adapted to flood disasters, ensuring that they gain resistance against flood disasters, • Promote sustainable land use policies compatible with flood management • Optimising land use planning to reduce flood risks • In urban areas, delay reservoirs and storage systems should be established in rainfall-induced flood control, technical solutions such as pavement systems and stream rehabilitation should be produced to reduce the flow coefficient, Flood Management Plans should be completed and implemented.	• Republic of Türkiye Ministry of Agriculture and Forestry • Republic of Türkiye Ministry of Environment, Urbanisation and Climate Change, General Directorate of Spatial Planning • Local Governments	• 100.000 Scale Environmental Plans • Development Plans • Meriç-Ergene Basin Master Plan
Geology and Soil	• Floods and landslides trigger each other, • Sediment (sediment) formation caused by soil movements due to landslides, • Reduction of the lifetime of flood protection structures by sediment, occurrence of soil pollution due to flood disasters, • Flood disasters affecting topographic features, • Loss of vegetative soil due to flood disaster.	• High	• Identification of landslide risk areas that may cause flooding based on existing data and observations, • Raising awareness of local people about the fact that agricultural, mining, etc. wastes thrown into stream beds may cause accumulation of sediment, • Taking detailed measures to prevent / minimise the effects of flood disasters on topography.	• Low	• Long Term	• Prevention/minimisation of landslide risks that may occur as a result of flooding, • Increasing soil fertility through afforestation works, establishing green areas and urban forests around cities, reducing air and noise pollution, preventing dust transport, floods and floods, preserving water resources, extending the life of dams, protecting biodiversity.	• Republic of Türkiye Ministry of Agriculture and Forestry • General Directorate of Mineral Research and Exploration (MTA) • Republic of Türkiye Ministry of Interior Disaster and Emergency Management Presidency	• Action Plan for Combating Erosion 2013-2017 • Basin Protection Action Plans • Meriç-Ergene Basin Master Plan

Environmental and Social Components	Description of Impacts	Impact Significance	Options and Measures to be Considered in the Plan and/or SEA	Impact After Measures to be Taken Severity	Duration of Effect	National and Local Scale Related Objectives and Targets	Stakeholders to be Consulted	Data and Information Sources
Archaeology and Cultural Heritage	• Structures planned to be built within the scope of flood control (dams, ponds, etc.) affect archaeological sites, • Damage to cultural heritage sites such as historical buildings etc. due to floods .	• Centre	• Taking measures to ensure the protection of historical and cultural heritage, repairing damaged structures.	• Low	• Short Term	• Ensuring that archaeological and cultural heritage is minimally affected in order to be passed on to future generations, protecting it and ensuring that possible damages are compensated.	• Republic of Türkiye Ministry of Culture and Tourism • Local Governments	• Meriç-Ergene Basin Master Plan • Provincial Environmental Status Reports • Basin Protection Action Plans
Landscape	• Structures (dams, ponds, etc.) planned to be constructed within the scope of flood control affect the landscape areas, • Damage to landscape areas due to flooding.	• Centre	• Identification of landscape areas potentially affected by flood areas and determination of necessary measures, • Considering the landscape values in the region while planning flood protection structures.	• Low	• Short Term	• Basin-based planning to protect and improve the quality of landscapes, cityscapes and rural areas.	• Republic of Türkiye Ministry of Environment, Urbanisation and Climate Change, • Local Governments	• Meriç-Ergene Basin Master Plan • Provincial Environmental Status Reports • Basin Protection Action Plans

1.3. Strategic Environmental Assessment Process

The Flood Risk Management Plan Preparation Project for the Meriç-Ergene Basin is planned to be completed in June 21 after the completion of all activities determined in accordance with the specifications. In this context, there are studies carried out and planned to be carried out in order to reveal the outputs to be prepared.

According to the By-Law, SEA shall include "environmental assessment studies, including a written report, carried out with a participatory approach from the beginning of the planning/programming process of plans/programs subject to approval/acceptance to be prepared by public institutions/organizations for the sectors covered by the By-Law, to ensure that environmental values are integrated into the plan/program before its approval/acceptance, to minimize the possible negative environmental impacts of the plan/program, to maximize its positive impacts and to assist decision-makers". The stages of the SEA Regulation are summarized inFigure 1 .

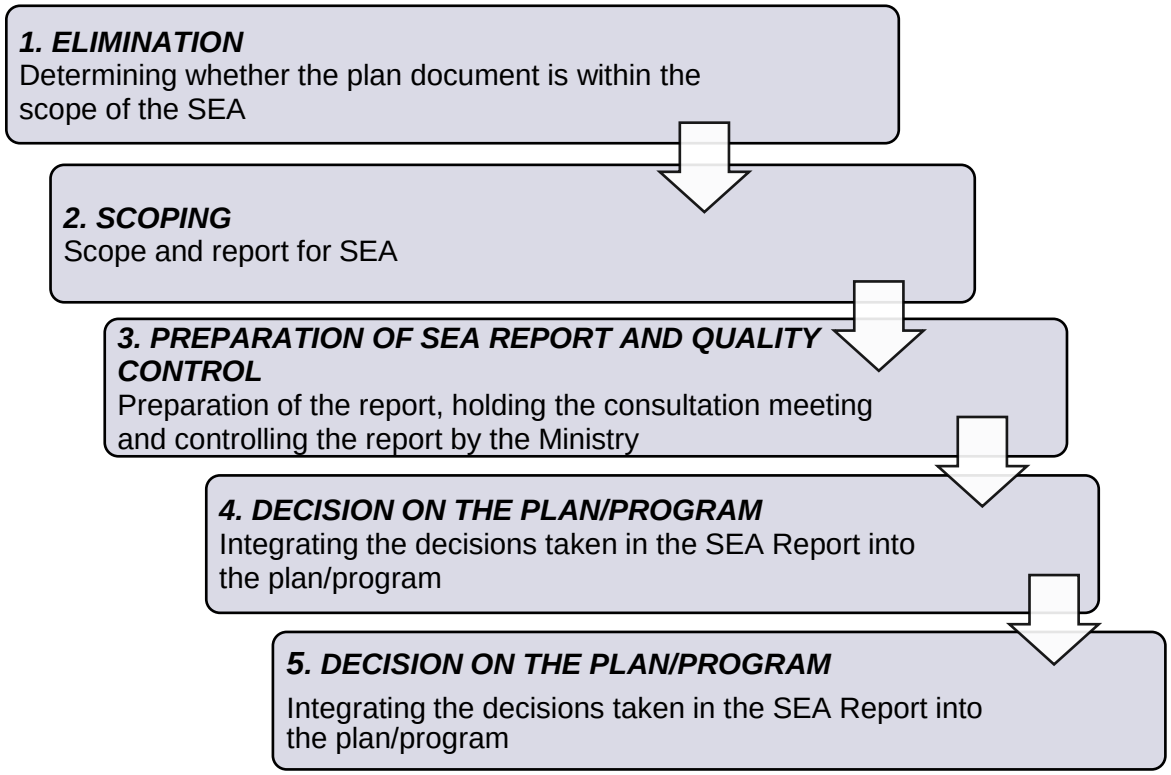


Figure 1 . SEA Stages

Screening: Screening is a stage that determines whether SEA will be applied within the scope of the project. SEA covers policies, plans or programmes that include all processes that are likely to have significant adverse effects on the environment. Within the scope of the duties and responsibilities of the Flood Risk Management Plan, the first of the SEA-specific studies is the screening studies. In the process of preparing Flood Management Plans in line with the "Regulation on Strategic Environmental Assessment", SEA Report should be prepared in accordance with the requirements of the regulation. Therefore, SEA was started to be prepared for the Meriç-Ergene Basin Flood Risk Management Plan without the screening process.

Scoping: Scoping is a process carried out to identify the key issues to be addressed in the SEA Report and to define the situation in the study area. With the scoping study, the environmental status of the Basin was revealed by assessing the existing environmental

factors. The existing ecosystems of the basin, water quality and other environmental factors were analysed at this stage. Priority issues to be included in the Strategic Environmental Assessment (SEA) report were identified at the preliminary assessment stage. This is an assessment to shape the focal points of the report. Key flood management issues were identified at this stage. The main issues to be placed at the centre of the plan and the importance of these issues were identified through this study. Scoping of Alternative Flood Management Plans has been undertaken. The methods to be used for the assessment of the environmental, economic and social impacts of various aspects of the plan were determined at this stage. Determination of Relevant Sustainable Development Goals and Objectives: Sustainable development goals and objectives were identified as part of the flood management plan and strategies were developed to achieve these goals.

One of the main objectives of the report is to describe the environmental and social baseline and set targets in line with the relevant plan, using the feedback received from the consultations with stakeholder organizations. Following the preparation of the first draft of the SEA Scoping Report, the Basin Stakeholder Meeting was organized for the purpose of a meeting to present the views of stakeholder organizations at central and basin level. The findings obtained after the meeting were evaluated and the draft version of the Scoping Report was updated and finalized by taking into account the data and information it contains.

Preparation of SEA Report: The SEA study consists of various stages such as detailed analysis of key issues identified in the draft scoping report, identification of environmental baseline, identification of environmental and climate change constraints, identification and assessment of potential environmental impacts, analysis of performance indicators, assessment of institutional capacities to address identified environmental and climate change challenges, conclusions and recommendations.

The main objective of the Scoping Report is to help the preparation of the SEA Report by outlining the SEA Report. Finalization of the SEA Report will proceed in line with the Flood Management Plan for the Meriç-Ergene Basin and is expected to be finalized on the same date with the Flood Risk Management Plan.

Quality Control: Within the scope of SEA, it is aimed to evaluate the inputs in order to ensure that the decision-making process is reliable and objective. In order not to mislead the environment and not to cause biased results, reliable and objective information is provided by performing "Quality Control" studies.

Article 12 of the SEA Regulation sets out the requirements of the Quality Control procedure and defines the following steps:

- The planning authority shall organize consultation meetings to obtain the views of environmental and health authorities and the public on the SEA Report and the draft plan or program.
- Based on the consultations, the planning authority finalizes the SEA Report and (if necessary) makes changes to the draft plan or program and submits both documents to the Ministry.
- The Ministry carries out quality control (within thirty days).
- If significant deficiencies are found in the SEA, the Ministry requests the planning organization to remedy these deficiencies.
- The Ministry shall (after the deficiencies have been corrected) issue a notification of the completion of the Quality Control and send this notification to the Competent Authority in an official letter and make it available to other relevant organizations and the public by publishing it on its website.

Decision Making and Decision Information: When preparing the Flood Risk Management Plan, the process continues by informing decision-makers about the possible environmental and health consequences, taking into account the SEA. When adopting the Flood Risk Management Plan, the results of consultation meetings with stakeholders, including decision makers, relevant authorities and the public, cannot be ignored. After the decisions are taken, the relevant stakeholders should be informed of the results.

Monitoring: Monitoring is carried out to observe the significant impacts that may occur within the scope of SEA during the implementation of the Plans and Programs. However, it is very challenging to monitor the results of plans and programs as their effects can be observed after a long period of time.

The issue of monitoring is included in the SEA Regulation (Article 14) as follows: "The competent authority prepares the monitoring program in line with the duration and scope agreed jointly with the Ministry in order to identify the significant adverse environmental impacts that may arise during the implementation of the plan/program and to find solutions to these impacts as soon as possible. The competent authority is responsible for the implementation of the monitoring activities described in the monitoring program, reporting the monitoring results and measures to eliminate possible negative environmental impacts to the Ministry and informing by publishing on the website".

1.4. Gap Analysis between the European Union SEA Directive and Türkiye SEA Regulation

The gap analysis between the European Union (EU) Strategic Environmental Assessment (SEA) Directive (2001/42/EC) and Türkiye's Strategic Environmental Assessment Regulation (2017) was prepared in line with foreign expert opinions within the scope of the activity set. It identifies differences and gaps by comparing the content, scope, implementation processes and legal harmonisation levels of both regulations. Key gaps are given in the table below.

Table 2. Comparison of the Turkish SEA Regulation and the EU SEA Directive

Criteria	EU Strategic Environmental Assessment Directive (2001/42/EC)	Türkiye Regulation on Strategic Environmental Assessment (2017)	Identified Gaps
Scope	Provides for the assessment of the environmental impacts of plans and programs; covers a wide range of sectors.	It covers sectors such as energy, agriculture, transport and tourism.	In Türkiye, urban transformation and mega projects may be excluded from the scope.
Application Area	It is mandatory for all plans and programs in EU member states.	It is EU-compliant and has a limited application area with specific plans and programs.	It is observed that the implementation in Türkiye is more limited and sector-based prioritization is made.
Participation	It requires the active participation of the public, civil society organizations and relevant stakeholders.	Although it envisages public participation, it is realized at a limited level in practice.	Participatory processes in Türkiye are considered to be symbolic compared to the EU.

Transparency	Environmental reports and processes are published publicly and access to information is provided.	Sharing of environmental reports is envisaged, but in practice access may be limited.	It was found that the level of transparency in Türkiye lags behind EU standards.
Environmental Sustainability	It sets the reduction of environmental impacts and sustainability as a fundamental goal.	While environmental impacts are taken into account, economic development priorities are at the forefront.	It is observed that environmental sustainability objectives are less prioritized in Türkiye compared to the EU.
Audit and Monitoring	It requires impact monitoring and independent auditing following the implementation of plans and programs.	Although monitoring and audit processes are included in the legislation, they are not effective due to resource and capacity limitations.	Monitoring mechanisms in Türkiye are considered to be weaker than in the EU and often superficial.
Sectoral Integration	Integrates environmental impacts across all sectors; biodiversity and climate change are prioritized.	Integration of biodiversity and climate change is limited, although it is applied in some sectors.	It was found that sectoral integration in Türkiye is weak compared to the EU and harmonization is insufficient.
Legal Framework	It has a binding structure that prevents the approval of plans and programs without considering environmental impacts.	It provides a framework harmonized with the EU, but binding and implementation is more flexible.	In Türkiye, there are cases where environmental impacts may be ignored in decision-making processes.

Although there is a general harmonization between the EU Strategic Environmental Assessment Directive and the Turkish Strategic Environmental Assessment Regulation in terms of basic principles, it is observed that there are various differences and gaps in implementation processes. In order to overcome these gaps, more comprehensive legal arrangements and strengthening of implementation mechanisms are required.

2. PURPOSE, SCOPE, OBJECTIVE, PROCESS AND RELATIONSHIP WITH RELATED PLANS / PROGRAMMES OF THE MERİÇ ERGENE BASIN FLOOD MANAGEMENT PLAN

Meriç Ergene Basin Flood Risk Management Plan has been prepared in line with the legal framework stated below:

Within the scope of Article 421 of the Presidential Decree on the Organisation of the Presidency (Decree No. 1), which entered into force upon publication in the Official Gazette dated 10.07.2018 and numbered 30474, the duties and authorities of the General Directorate of Water Management include "h) Carrying out studies to determine strategies and policies related to floods and preparing relevant legislation and flood management plans."

12.05.2016 dated 12.05.2016 and numbered 29710 published in the Official Gazette dated 12.05.2016 and numbered 29710, all articles of the Regulation on Preparation, Implementation and Monitoring of Flood Management Plans, in particular Article 6 "(1) Flood management plans include areas with flood water retention capacity such as flood spreading areas and natural flood plains, By taking into consideration the effects of past flood events, soil and water management, nature conservation, spatial planning, land use and cost-benefit, the Ministry shall prepare or have prepared for all basins according to the principles specified in Annex-1." The statement is included.

Basin Flood Management Plans are included within the scope of the "Regulation on Strategic Environmental Assessment" Annex-1 Strategic Environmental Assessment Plan/Programme List, which entered into force after being published in the Official Gazette dated 08.04.2017 and numbered 30032. In this context, Strategic Environmental Assessment studies have been initiated.

Strategic Environmental Assessment Studies; A Scoping Report was prepared based on the information in Annex 3 of the "Regulation on Strategic Environmental Assessment" published in the Official Gazette dated 08.04.2017 and numbered 30032. The Scoping Report was prepared by taking into account the environmental status of the basin and general principles regarding flood management plans.

2.1. Purpose and Scope of Flood Management Plan

The main objective of the Meriç Ergene Basin Flood Risk Management Plan is to identify, assess and mitigate flood risks that may occur and to reduce the negative impacts of floods on the environment, social structure and public health.

The objectives of the Plan are as follows in general terms:

- Identification of areas under flood hazard and grading of flood risks in these areas,
- Develop structural (dams, embankments, drainage systems) and non-structural (flood early warning systems, land use planning) measures to reduce flood risk,
- Establishing emergency plans and ensuring coordination between relevant institutions and organizations to ensure rapid and effective response in case of flooding,
- Raising public awareness about flooding,
- Promoting sustainable development,
- Reducing the economic losses and social impacts of floods.

The following works have been carried out within the scope of the Flood Risk Management Plan:

- Preliminary Flood Risk Assessment,
- Flood Hazard Maps,
- Flood Risk Maps,
- Meriç-Ergene Basin Flood Risk Management Plan,
- Revising the existing Flood Warning System as Flood Forecasting & Early Warning System and expanding the scope to the basin scale.

2.2. Relation of the Flood Management Plan with Other Related Plans and Programs

Flooding is a natural event in which a river overflows its bed for various reasons, damaging the surrounding lands, settlements, infrastructure facilities and living beings, and interrupting economic and social activities in that region. As in all parts of the world, flooding is a natural disaster that is very common in our country and has destructive side effects.

In order to survive, people usually position their living spaces next to rivers. Streams, on the other hand, overflow from their bed due to sudden and rapid precipitation, fast and strong water flow and spread around and cause the surrounding area to be flooded. For this reason, people and the environments they live in are the main elements affected by flooding.

Flood Risk Management Plans are in direct connection with Environmental Plans, River Basin Management Plans, Development Plans, Basin Rehabilitation Projects, Long Term Development Plans, Basin Master Plans and Flood Risk Regulations. Harmonisation of the Meriç-Ergene Basin Flood Risk Management Plan with other plans and programmes prepared on the basis of other basins or regionally is important for an integrated flood management approach.

Meriç-Ergene Basin Flood Management Plan and SEA are under preparation;

- Meriç-Ergene Basin Master Plan Final Report prepared by DSİ General Directorate,
- Republic of Türkiye Governorship of Edirne, Tekirdağ and Kırklareli, Provincial Disaster Risk Reduction Plan,
- Republic of Türkiye Ministry of Agriculture and Forestry, TRAGEP Thrace Development Project,
- Strategic Plan (2019-2023) prepared by General Directorate of State Hydraulic Works National Climate Change Action Plan 2014-2023 (MoEU, 2012),
- Fifth National Communication of the Republic of Türkiye to the United Nations Framework Convention on Climate Change (MoEU, 2013),
- National Biodiversity Action Plan 2018- 2028 (TSB, 2018),
- National Health Strategic Plan 2018- 2022 (Ministry of Health, 2018),
- Meriç-Ergene Basin Protection Action Plan (2017),
- Meriç-Ergene Basin Industrial Wastewater Management Master Plan Study Final Report (MoEU,10)
- Meriç-Ergene Basin Drought Management Plan (2022)
- National Basin Management Strategy 2014-2023 (Republic of Türkiye Ministry of Forestry and Water Affairs, 2014)
- Strategy and Roadmap on Modelling Water Resources (T.C. Ministry of Agriculture and Forestry, 2014)
- Flood Directive 2007/60/EC

- Water Framework Directive 2000/60/EC
- European Union Strategic Environmental Assessment (SEA) Directive 2001/42/EC
- Draft SEA National Implementation Plan
- Flood Action Plan (DSİ, 2012)
- Eleventh Development Plan 2019-2023 (Presidency of the Republic of Türkiye, Presidency of Strategy and Budget, 2019)
- Climate Change Action Plan 2011-2023 (T.C. Ministry of Environment, Urbanization and Climate Change, 2012)
- Impact of Climate Change on Water Resources Project (Republic of Türkiye Ministry of Agriculture and Forestry, 2016)
- Türkiye Disaster Response Plan (T.C. Abrogated Prime Ministry, Disaster and Emergency Management Presidency, 2013)
- UNFCCC, Seventh National Communication of the Republic of Türkiye to the United Nations Framework Convention on Climate Change (T.C. Abrogated Ministry of Environment and Urbanisation, 2018)
- Drinking Water Basin Protection Action Plans

The data within the scope of the scope are also utilised.

2.3. Sustainability Goals

The 17 Sustainable Development Goals (SDGs) included in the 2030 Agenda for Sustainable Development document adopted at the United Nations (UN) Sustainable Development Summit in September 2015 started their implementation process on 1 January 2016. These goals have been accepted as the continuation of the Millennium Development Goals (MDGs) and include targets to be universally achieved for all with the slogan "leaving no one behind / no one left behind".

With 169 targets under 17 goals, the SDGs go beyond the MDGs by focusing on universal needs for development on equal terms for all people. These goals include a range of objectives such as economic growth, strengthening employment, improving cities and settlements, industrialisation and infrastructure development, ocean protection, sustainable energy supply, preventing climate change, promoting sustainable production and consumption, ensuring peace and justice, and protecting human rights.

Unlike the MDGs, which are geared towards mobilising action in developing countries, the SDGs have been universally adopted by all countries. Another important feature of the SDGs is their focus on means of implementation (financing, capacity building, trade, technology, etc.). While the SDGs are not legally binding, governments are expected to show ownership for achieving the SDGs and implement them at the national level. Organised under 17 headings, the SDGs are listed below:

Sustainable Development Goals

Goal 1: End all forms of poverty everywhere

Goal 2: End hunger, achieve food security and good nutrition, and promote sustainable agriculture

Goal 3: Ensuring a healthy and quality life at every age

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5: Achieve gender equality and empower all women and girls

Goal 6: Ensure accessible water and wastewater services and sustainable water management for all

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8: Promote stable, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9: Building resilient infrastructures, promoting inclusive and sustainable industrialisation and strengthening innovation

Goal 10: Reduce inequalities within and between countries

Goal 11: Making cities and human settlements inclusive, safe, resilient and sustainable

Goal 12: To ensure conscious production and consumption patterns

Goal 13: Take urgent action to combat climate change and its impacts

Goal 14: Conserve and sustainably use oceans, seas and marine resources for sustainable development

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems; ensure sustainable forest management; combat desertification; halt and reverse land degradation; prevent biodiversity loss

Goal 16: Building peaceful and inclusive societies for sustainable development, ensuring access to justice for all and building effective, accountable and inclusive institutions at all levels

Goal 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development

The Global Goals for Sustainable Development are shown below

Figure 2. Global Goals for Sustainable Development

SDGs are global targets adopted by countries to achieve environmental and human development. Preparation of Flood Management Plans plays an important role in achieving SDG targets. In this context, if it is necessary to elaborate the SDGs that are adversely affected by flooding and trigger flooding:

- ***SDG 1 (End Poverty):***
  Recurrent floods can adversely affect governments and the private sector by discouraging long-term investment; they can also have a profound impact on jobs and livelihoods. This can negatively impact communities economically, hampering poverty eradication efforts. Floods also have a negative impact on jobs and livelihoods by damaging agricultural land and causing significant losses in farmers' incomes. Flooding of agricultural land, especially in villages, causes even more significant damage to the local economy.

- ***SDG 2 (Zero Hunger):***
  Floods can cause problems in people's access to food and clean water, which are essential for their survival. This can negatively affect efforts to combat hunger. It also creates cascading impacts on food availability and livelihoods due to its effects on soils.

- ***SDG 6 (Clean Water and Sanitation):***
  Floods can cause contamination of usable water sources, limiting access to clean water. This can pose serious challenges to access to water resources.

- ***SDG 8 (Decent Work and Economic Growth):***
  Floods can have negative impacts in many urban areas, slowing economic growth and limiting investment opportunities. Flooding can affect both workers' homes and businesses, causing disruption or complete loss of jobs. This can affect the future of communities and cities by slowing economic growth and limiting their capacity to contribute to sustainable development.

- ***SDG 9 (Industry, Innovation and Infrastructure):***
  Following floods, cities can suffer serious damage to their infrastructure. This can negatively impact infrastructure and other development activities due to the high cost of flood relief and recovery. Damage to infrastructure can jeopardise the ability of communities to maintain their businesses (dams, dykes, power plants, water treatment facilities) and further development.

- ***SDG 11 (Sustainable Cities and Communities):***
  In particular, SDG 11 aims to make cities and human settlements inclusive, safe, resilient and sustainable in the face of natural disasters such as flooding. Holistically adopting and implementing SDG 11 targets and indicators will lead to a better flood prevention strategy and reduce flood vulnerability.

- ***SDG 13 (Climate Action):***
  SDG 13 focuses on targets that aim to strengthen the adaptive capacity of all segments and institutions, especially vulnerable groups, to combat climate change. Under Target 13.1, there are a number of projects for disaster risk reduction. Among these projects, there are measures to prepare regional flood plans and integrate them into provincial disaster plans, organise trainings to increase social awareness and participation, develop early warning systems in combating flooding, monitor the impact of events such as heat waves, extreme cold, floods, storms and droughts caused by climate change on public health and take measures.

3. CURRENT ENVIRONMENTAL AND HEALTH STATUS RELATED TO THE MERİÇ ERGENE BASIN FLOOD MANAGEMENT

3.1. Current Status

3.1.1. Project Location

The Evros River has one of the most important drainage systems in the Balkans. It forms a basin covering a total area of 52,600 km^2 and the river is 550 km long. The Evros River originates in the Rhodope Mountains (Rila, 2925m) in Bulgaria and flows into the Saroz Bay, forming the sub-basin of the Tunca River, Arda River and Ergene River. The Meriç-Ergene Basin covers the Thrace Region of Türkiye. It is a transboundary river basin neighbouring Bulgaria to the north and Greece to the west. Türkiye is located downstream of the Evros-Ergene Basin. 65% of the total area of the basin is within the borders of Bulgaria, 28% of Türkiye and 7% of Greece (Turoğlu & Uludağ, 2015) . The location of the basin in Türkiye is given in

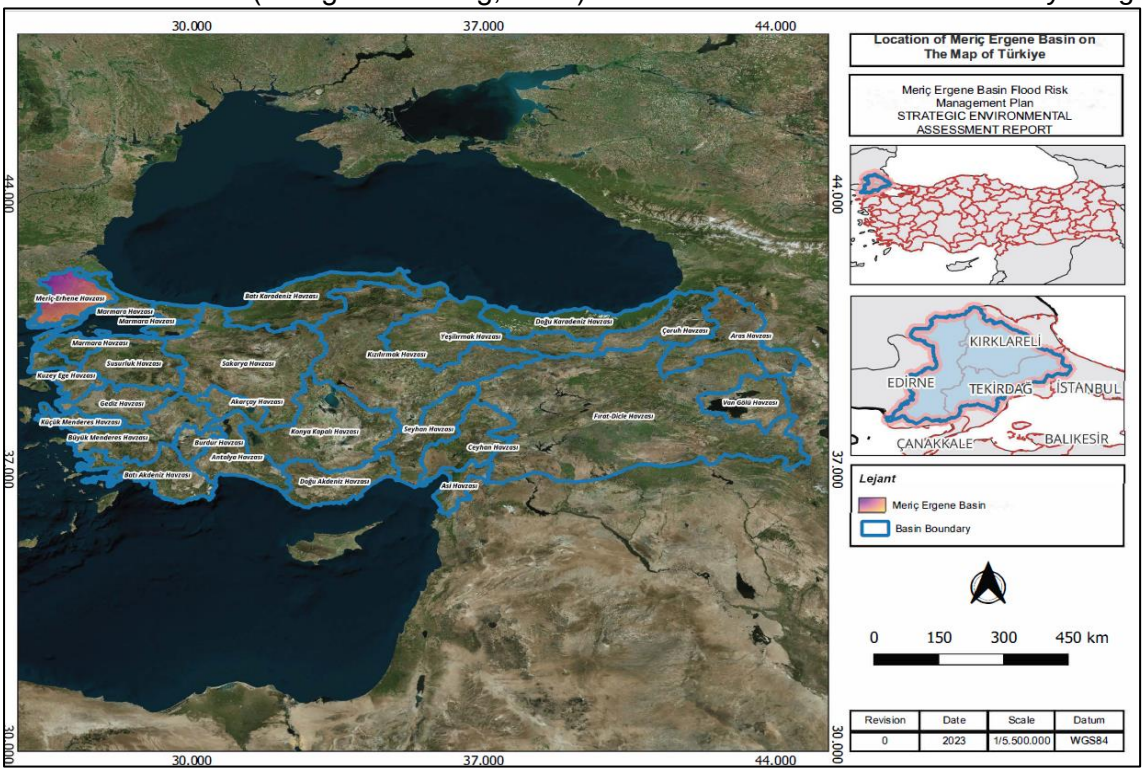


Figure 4

The main river that forms the country's border is the Meriç-Ergene River, which gives life to the basin it is named after. The Meriç River flows through the Saroz Gulf into the Aegean Sea, bringing together the sub-basins of the Tunca River, Arda River and Ergene River. Meriç-Ergene Basin includes nine different river and lake sub-basins. Information about these basins is presented in the table below and map representation

Table 3. Sub-basin Information

Sub Basin Code	Sub Basin Name	Surface area
01-1	Corlu	1.459
01-2	Visa	685
01-3	Lüleburgaz	1.291
01-4	Hayrabolu	2.374

01-5	Babaeski	1.507
01-6	Havsa	2.467
01-7	Uzunköprü	1.462
01-8	Ipsala-Kesan	1.736
01-9	Meric	1.519
Total		**14.500**

Within the basin, approximately 39% belongs to Edirne, 31% to Kırklareli and 29% to Tekirdağ. Istanbul and Çanakkale provinces constitute 1% of the total. The map representation of the catchment is given in the map below (see

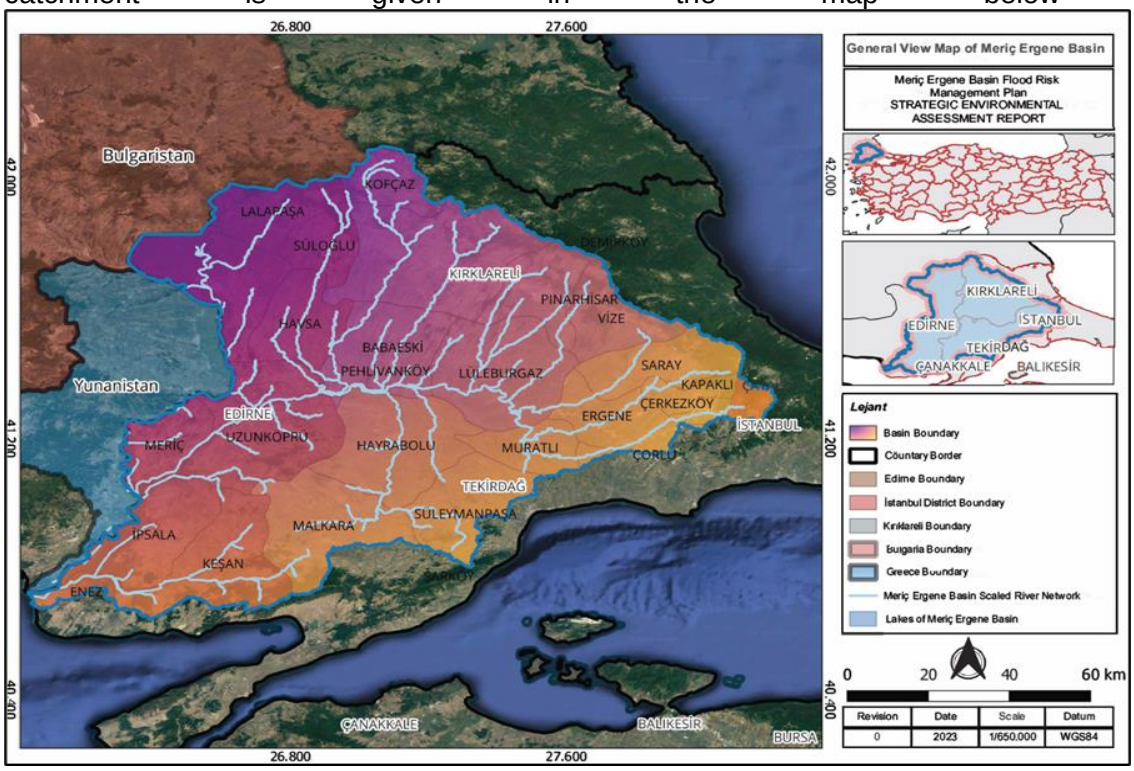


Figure 5)

Figure 3. Meriç Ergene Basin Sub-basins (Hydrology Report, 2022)

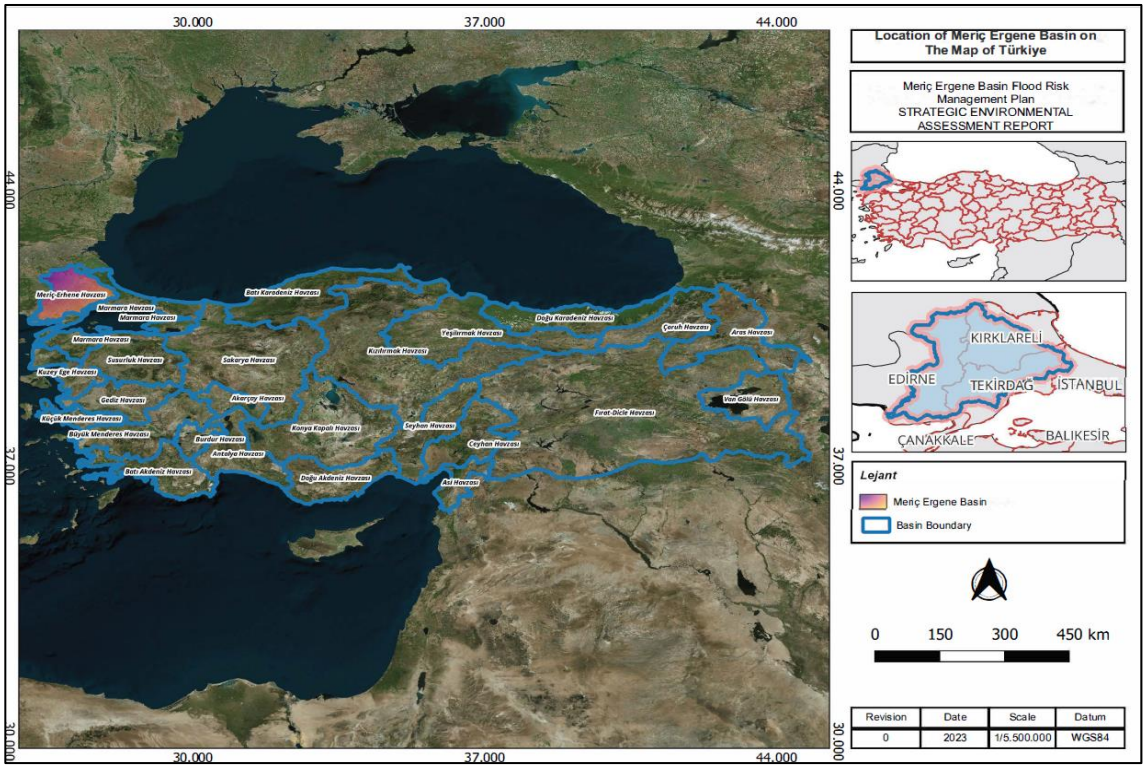


Figure 4 . Location of Meriç-Ergene Basin on Türkiye Map

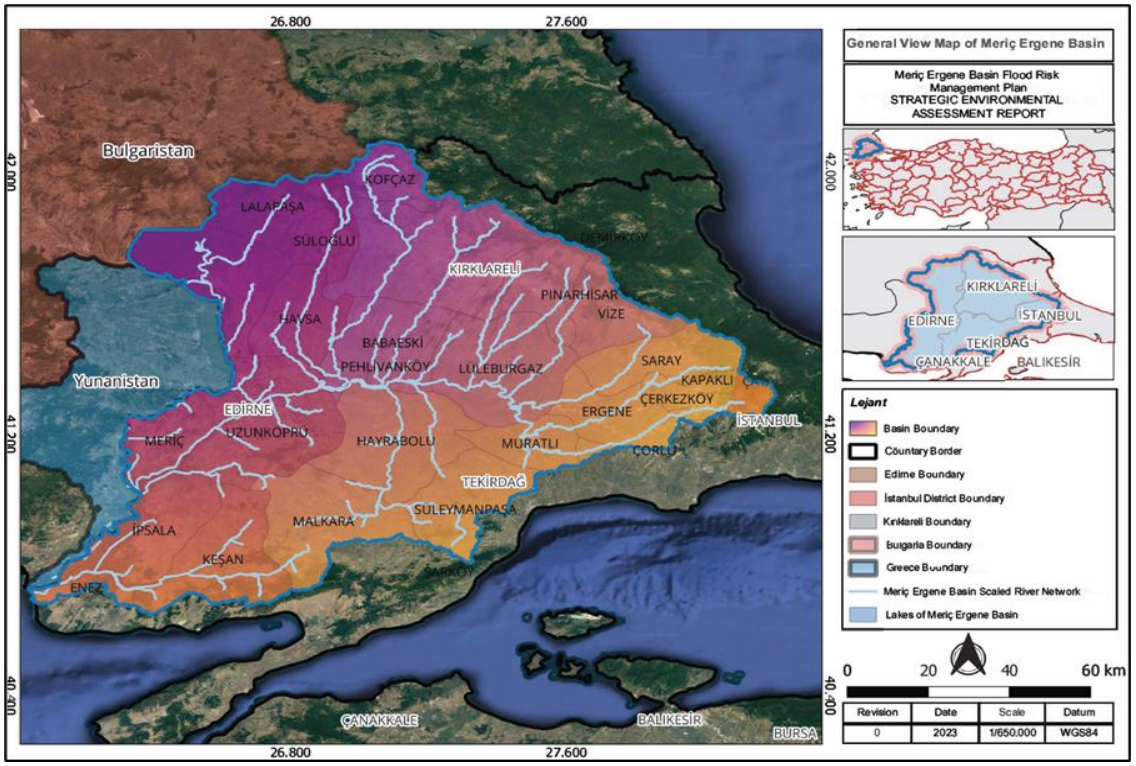


Figure 5 . General View of Meriç-Ergene Basin

Within the boundaries of the Meriç-Ergene Basin, Edirne, Kırklareli, Tekirdağ provinces are located in a large part, while Istanbul and Çanakkale provinces are located in a small part (SeeFigure 6). Edirne with approximately 39%, Kırklareli with 31%, Tekirdağ with 29% and Istanbul and Çanakkale with 1% in total. The provincial borders are given below (SeeFigure 6).

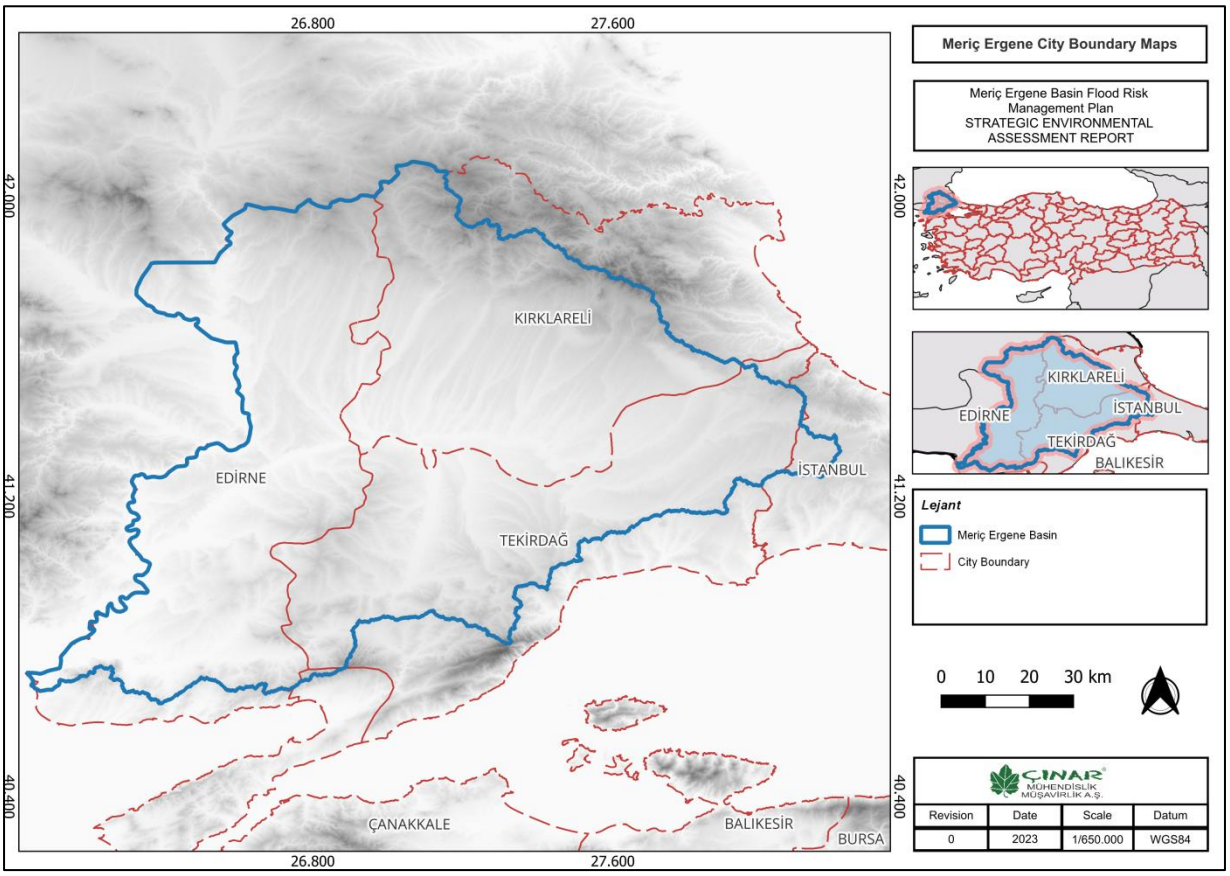


Figure 6 . Meriç-Ergene Basin and Provincial Boundaries

Edirne

When the total area of the basin is analysed, as can be understood from the map below (SeeFigure 7), Edirne is in the first place with the highest areal ratio. It is located within the Meriç-Ergene Basin with Istarınca Mountains in the north of Edirne, Ergene Basin in the central part, mountains and plateaus in the south. This central position of Edirne in the Meriç-Ergene Basin is directly related to the economic activities of the population of the region. While agricultural production, especially paddy and wheat cultivation, is supported by the efficient use of river waters, the industry of the region has also developed based on water resources. Edirne's close relationship with the Evros River plays a decisive role in shaping the socio-economic structure of the region [1]

[1] Source: Edirne Province 2022 Environmental Status Report: ed-rne-2022-yili-cevre-durum-raporu-20231026163146.pdf

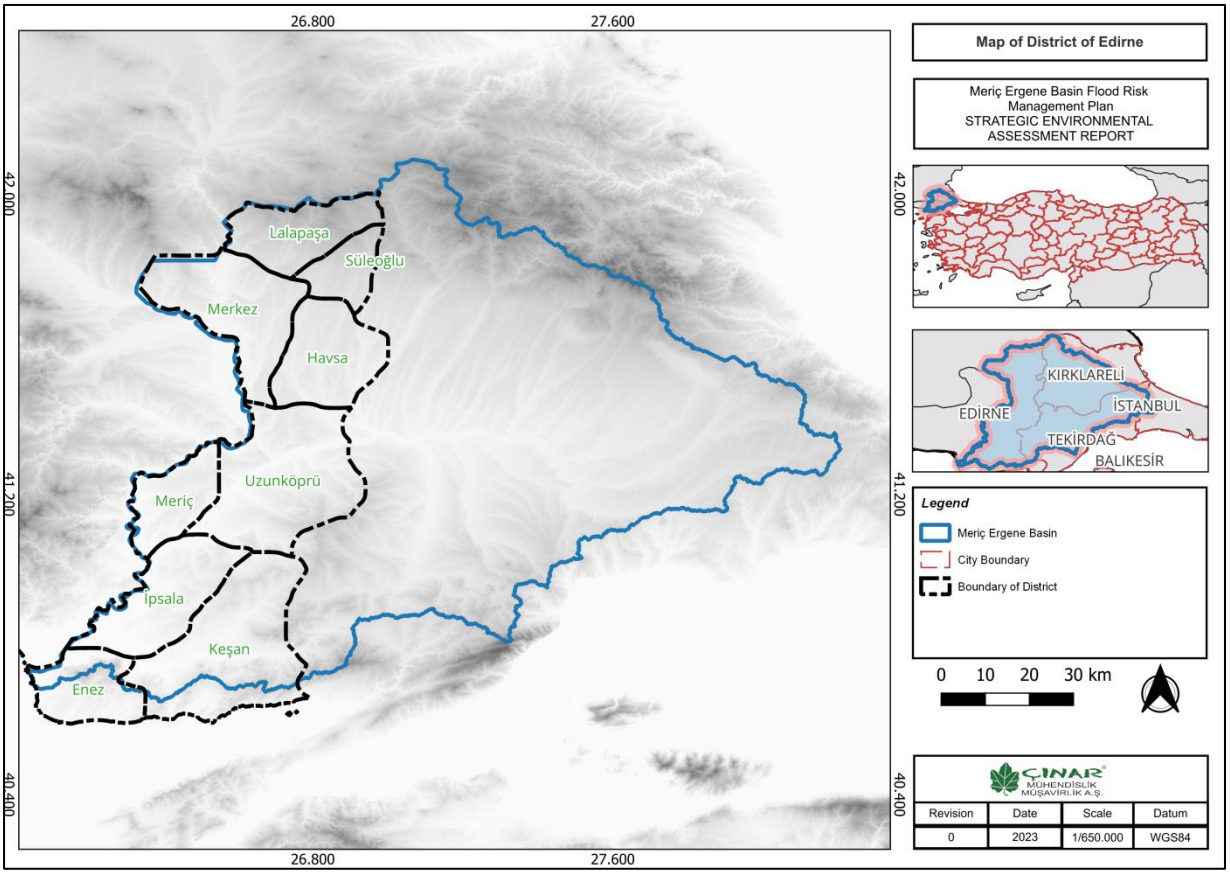


Figure 7 . Edirne Province and District Boundaries

Kirklareli

Kırklareli Province is located in the north of the Thrace Region, bordering the Black Sea to the east, Tekirdağ to the south, Edirne to the west and Burgas Province of Bulgaria to the north. Located in the north of the Meriç-Ergene Basin, Kırklareli (see Figure 8) has a strategic importance in terms of agriculture and animal husbandry activities. Especially wheat, sunflower and paddy production is intensively carried out in the fertile lands of the basin. Ergene River passes through the south of Kırklareli and contributes to the irrigation of agricultural lands. Furthermore, thanks to its proximity to water resources, organised industrial zones have developed in the province.[2]

[2] Source: Kırklareli Provincial Directorate of Culture and Tourism: https://kirklareli.ktb.gov.tr/TR-64281/cografya.html

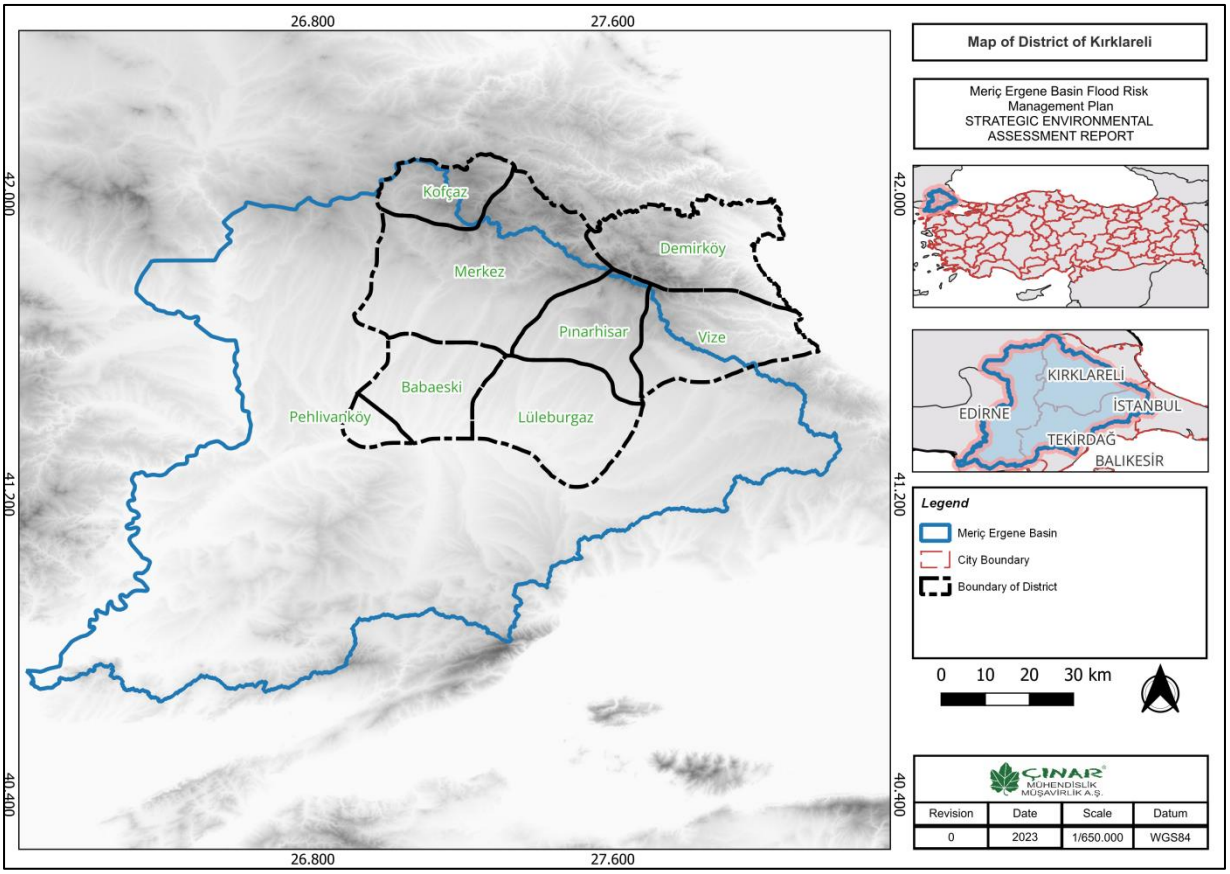


Figure 8 . Kırklareli Provincial and District Boundaries

Tekirdağ

Tekirdağ Province is bounded by Istanbul in the east, Marmara Sea and Çanakkale in the south, Edirne in the west, Kırklareli in the north and the Black Sea in the northeast (see Figure 9). Located in the south of the Meriç-Ergene Basin, Tekirdağ is one of the leading provinces of the region in terms of agriculture and industry. Sunflower, wheat and grape production have an important place in the province. The Ergene River plays a vital role in irrigation of agricultural lands and increases production capacity. In addition, organised industrial zones and ports contribute significantly to the development of Tekirdağ industrial infrastructure.

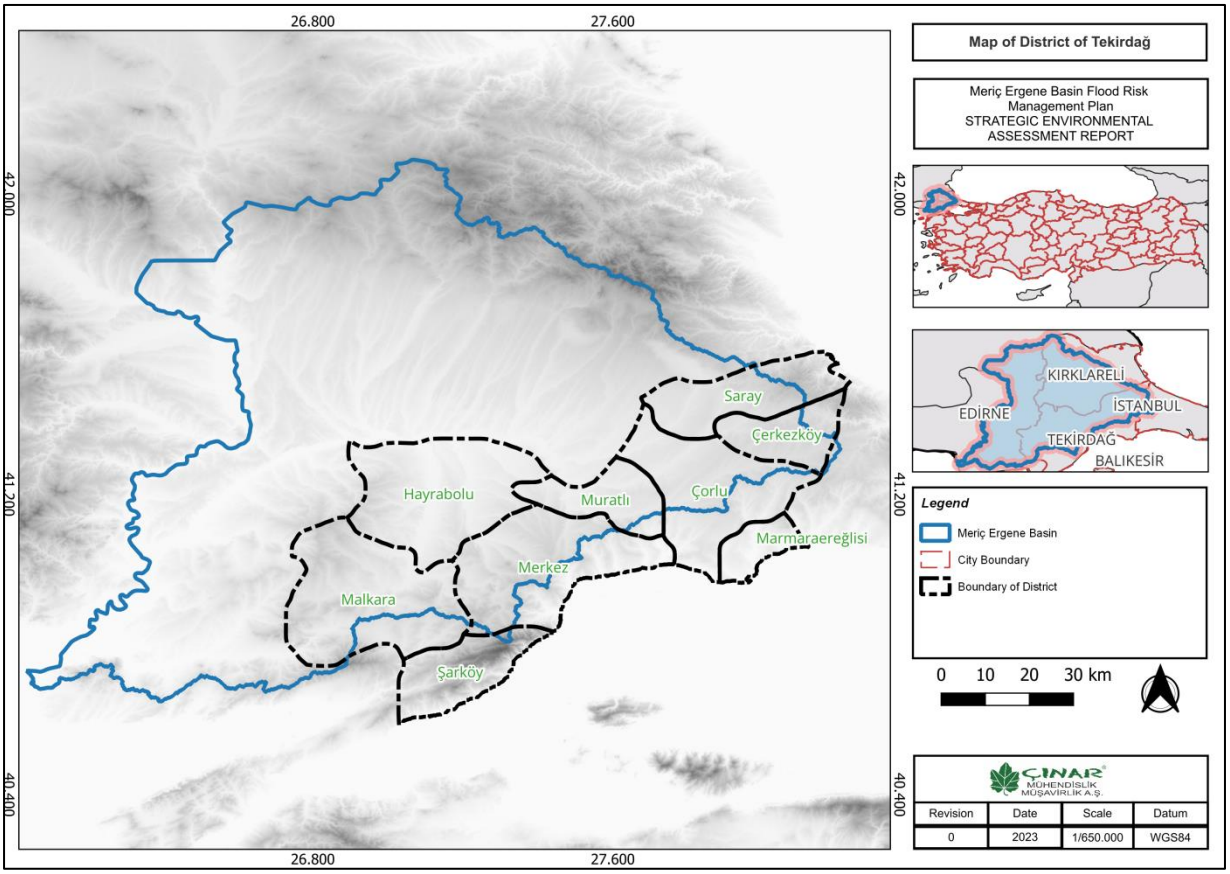


Figure 9 . Tekirdağ Provincial and District Borders

3.1.2. Population

Approximately 2% of Türkiye's population lives in the rapidly industrialising and highly developed Meriç-Ergene Basin. The population structure in the region is shaped by the main economic activities such as agriculture, industry and trade. The predominance of agricultural production in rural areas causes a significant portion of the population to be employed in this sector. While seasonal migration movements are common in agriculture-based economies, the proportion of elderly population increases in rural areas as the young population migrates to urban centres.

In addition, with the acceleration of industrialisation and the spread of organised industrial zones, population density increases in urban centres and labour mobility is directed towards these regions. In general terms, the population structure of the Meriç-Ergene Basin has a dynamic structure based on the balance between agriculture and industry. However, migration movements, changes in unemployment rates and demographic shifts directly affect the socio-economic structure of the region.

Current population and area distribution information of the settlements within the Meriç-Ergene Basin for the year 2023 is given in Table 4 .[3]

Table 4 . Current Population and Area Distribution of Settlements in 2023

Province	District	Total Area (km²)	Area within the Basin (km²)	Area Share Remaining in the Basin (%)	Total Population	Population of the District within the Basin	Share of Population Remaining in the Basin (%)	Area Share Remaining in the Basin (%)
Edirne	Uzunköprü	1.150,50	1.145,30	99,55	39.662,00	39.482,74	99,55	
Edirne	Centre	831,00	808,90	97,34	183.110,00	178.240,29	97,34	
Edirne	Kashan	1.222,70	964,30	78,87	65.267,00	51.473,76	78,87	
Edirne	Ipsala	686,40	674,80	98,31	8.741,00	8.593,28	98,31	
Edine	Lalapasa	509,10	507,20	99,63	1.627,00	1.620,93	99,63	39
Edirne	Havsa	613,80	613,80	100,00	8.834,00	8.834,00	100,00	
Edirne	Meric	400,90	396,20	98,83	2.860,00	2.826,47	98,83	
Edirne	Suleoglu	266,50	266,50	100,00	3.212,00	3.212,00	100,00	
Edirne	Enez	448,60	149,70	33,37	4.446,00	1.483,65	33,37	
Edirne	**Total**	**6.129,50**	**5.526,70**	**90,17**	**317.759,00**	**295.767,12**	**93,08**	
Kirklareli	Visa	847,10	303,50	35,83	219,00	78,46	35,83	
Kirklareli	Kofçaz	444,10	255,50	57,53	2,31	1,33	57,53	
Kirklareli	Pehlivankoy	136,70	136,70	100,00	3,40	3,40	100,00	
Kirklareli	Centre	1.743,72	1.424,65	81,70	112,32	91,77	81,70	31
Kirklareli	Lüleburgaz	970,40	970,40	100,00	155,67	155,67	100,00	
Kirklareli	Babaeski	661,20	661,20	100,00	46,60	46,60	100,00	
Kirklareli	Pinarhisar	656,30	643,90	98,11	17,74	17,40	98,11	
Kirklareli	**Total**	**6.750,72**	**4.954,85**	**73,40**	**557,03**	**394,63**	**70,84**	
Tekirdag	Hayrabolu	1.142,60	1.142,60	100,00	30,93	30,93	100,00	
Tekirdag	Malkara	1.248,30	1.009,10	80,84	51,41	41,56	80,84	
Tekirdag	Centre (Suleymanpasa)	1.101,48	665,40	60,41	219,23	132,44	60,41	29
Tekirdag	Palace	615,40	446,40	72,54	51,22	37,16	72,54	
Tekirdag	Corlu	979,30	531,60	54,28	294,02	159,60	54,28	
Tekirdag	Muratli	413,10	367,00	88,84	30,41	27,02	88,84	

[3] Source: TurkStat Statistical Data Portal (2024) Population and Demography https://data.tuik.gov.tr/Kategori/GetKategori?p=Nufus-ve-Demografi-109

Tekirdag	Cerkezkoy	389,30	301,00	77,32	213,24	164,88	77,32	
Tekirdag	Sarkoy	503,50	7,70	1,53	34,05	0,52	1,53	
Tekirdag	**Total**	**6.392,98**	**4.470,80**	**69,93**	**908.350,00**	**594,10**	**0,07**	
Istanbul	Catalca	938,30	11,00	1,17	80,01	0,94	1,17	1
Canakkale	Gallipoli	961,40	20,20	2,10	44,46	0,93	2,10	

These data reflect the total area of the provinces in the Meriç-Ergene Basin, their areas within the basin and their population distribution, and the demographic and geographical structure of the region. The graph of the areal shares of the provinces in relation to the total area in the basin is given belowFigure 10

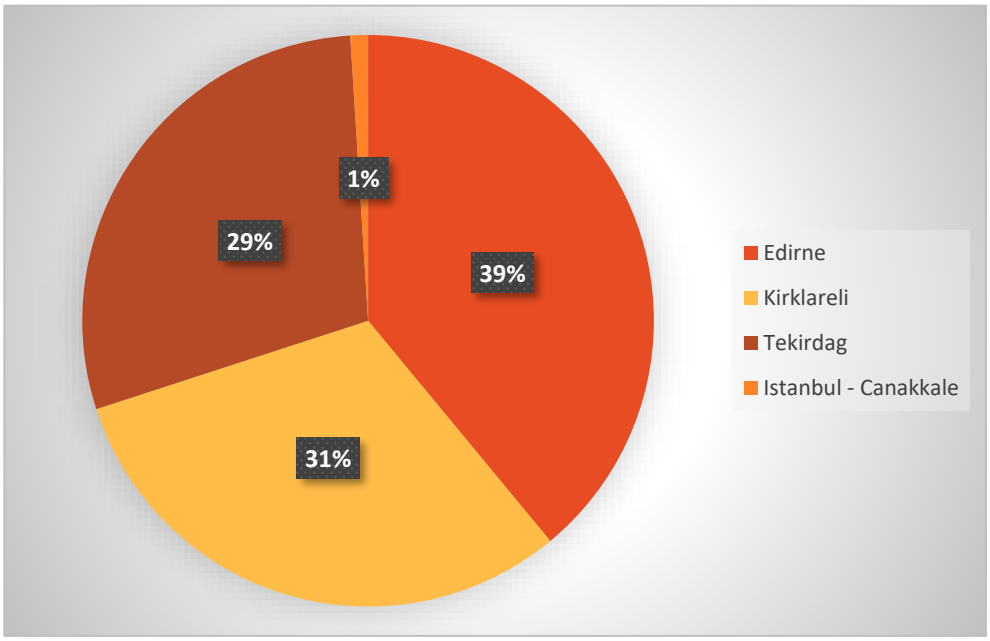


Figure 10 .Area Share of Provinces in the Basin

Edirne Province has the largest areal share (39%) and population in the basin, and especially Uzunköprü, Meriç and Havsa districts are completely within the basin boundaries. Kırklareli Province has an areal share of 31% in the basin, while Lüleburgaz and Babaeski districts are completely within the basin boundaries; some other districts are partially located in this area. Tekirdağ Province has an important position with an areal share of 29%. Istanbul and Çanakkale have very small areas within the basin, which limits the role of these provinces in the region. The population shares of the provinces in the basin are given inFigure 11

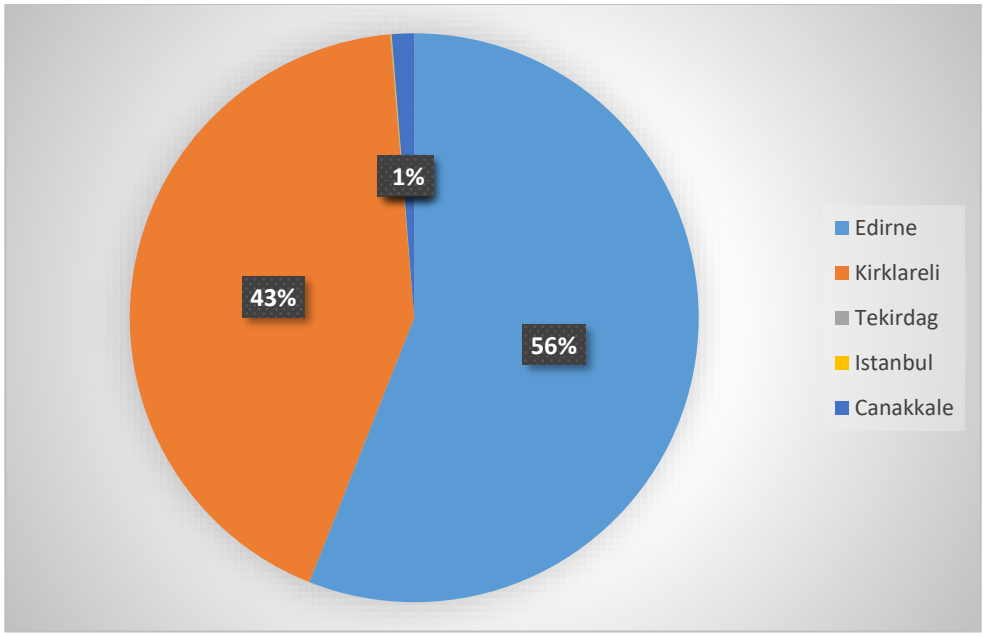


Figure 11 . Population Share of Provinces in the Basin

According to these results, Edirne (55.65%) and Kırklareli (42.36%) stand out as the provinces with the largest shares in the Meriç-Ergene Basin according to their areal or population shares, and these two provinces have an important role in the management of the basin and protection of natural resources. The share of Çanakkale is limited to 1.26%, while Istanbul (0.044%) and Tekirdağ (0.039%) have very small shares in the basin and their contribution to basin management is very low. In general, Edirne and Kırklareli stand out as the most influential provinces in the management processes in the Meriç-Ergene Basin.

According to the 2023 TURKSTAT database, the number of households and female-male gender percentages of provinces are given in the following Table 5 .

Table 5 . Distribution of Population by Gender 2023

Provinces	Number of Households	Male	%	Woman	%	Total
Edirne	148.451	208.328	50,23	206.386	49,77	414.714
Kirklareli	131.948	187.041	50,64	182.306	49,36	369.347
Tekirdag	364.27	583.014	51,03	559.437	48,97	1.142.451
Türkiye	26.075.365	42.704.112	50,08	42.575.441	49,92	85.279.553

When the data on the number of households and gender distribution of the provinces in the basin are analysed, it is seen that the total population is 85,279,553 with 26,075,365 households in Türkiye. The average household size is approximately 3.26. Tekirdağ is the province with the highest values in terms of the number of households and total population, reaching a population of 1,142,451. In terms of gender distribution, the ratio of males is 50.08 per cent and the ratio of females is 49.92 per cent in Türkiye. When the gender ratios by provinces are analysed, a more balanced distribution is observed in Kırklareli and Edirne, while in Tekirdağ the male population (51.03%) is slightly higher than the female population (48.97%). These data provide important information about the social structure and gender balance in Türkiye and reflect the impact of local economic and social conditions.

Population change information in the basin between 2013-2023 is given in Table 6.

Table 6 . Population Change Information 2013-2023

Year	Edirne	Rate of Change (%)	Kirklareli	Rate of Change (%)	Tekirdag	Rate of Change (%)
2013	398.582	0,43	340.559	0,93	874.475	3,69
2014	400.280	0,56	343.723	0,95	906.732	3,44
2015	402.537	-0,21	346.973	1,36	937.91	3,73
2016	401.701	1,28	351.684	1,24	972.875	3,35
2017	406.855	1,15	356.05	1,35	1.005.463	2,43
2018	411.528	0,58	360.86	0,27	1.029.927	2,47
2019	413.903	-1,48	361.836	-0,03	1.055.412	2,43
2020	407.763	1,07	361.737	1,28	1.081.065	2,99
2021	412.115	0,63	366.363	0,81	1.113.400	2,61
2022	414.714	0,63	369.347	0,81	1.142.451	2,58
2023	419.913	1,25	377.156	2,11	1.167.059	2,15

When the population changes of Edirne, Kırklareli and Tekirdağ between 2013-2023 are analysed, it is seen that there is a population increase in all three provinces. While the population of Edirne increased from 398,582 to 419,913, the general trend was in the direction of increase, although there was a decrease in some years. Kırklareli's population increased from 340,559 to 377,156 and mostly positive rates of change were recorded. Tekirdağ is the province with the fastest population growth, with its population increasing from 874,475 to 1,167,059. Annual growth rates in Tekirdağ were generally above 2 per cent. In general, it is observed that the population in all three provinces increased between 2013 and 2023, with Tekirdağ in particular showing the highest growth rates.

3.1.3. Water Resources

3.1.3.1. Surface Water Resources

Rivers

The Meriç-Ergene Basin has a low topography and a well-developed drainage network. The basin consists of the Meriç and Ergene rivers, from which it takes its name, and their tributaries Arda, Teke, Tunca, Suluçak, Rezve, Paşaköy, Babaeski and Hayrabolu streams. These waterways are important factors determining the water carrying capacity of the basin. The topographic and hydrographic characteristics of the basin play an important role in the formulation of flood management plans and protection of water resources. River water bodies in the basin are shown in the following Table 7 .

Table 7 . River Water Bodies

Water Body Category	Number of Water Bodies
River	79
Lake	37
Coastal Water	1
Transition Water	3
Total	120

The Ergene River is located in the province of Edirne and flows in the east-west direction until Uzunköprü district. The river is fed by many streams and rivers from north and south. The streams with thin and long sub-basins extending in the north-south direction constitute the elements that feed the Ergene River. The rainfall area of the Ergene Basin is 11.026 km².

Ergene Basin is surrounded by Meriç Basin in the west, Yıldız Mountains (Istıranca) in the north and east, and Işıklar and Koru Mountains in the south. A large part of the basin consists of arable land. Ergene River originates from the springs around Taşpınar Hill of Yıldız Mountains in the north of Saray District of Tekirdağ and flows southwards and receives Sara and Makine streams. Then it turns southwest, takes the name Ergene River by taking Çorlu water near İnanlı and flows northwestwards. Turning west around Eski Bedir Village, the river merges with various streams around Düğüncülü and Karakavak. The Ergene River passes through Uzunköprü and merges with the Evros River at an elevation of 6.00 metres in the western part of Balabancık Village. In addition, Tunca and Arda rivers are also located within the borders of Tekirdağ province (AFAD, 2021) .

The headwaters of the Evros River are located on the Rila Hill on the Rhodope Mountains in Bulgaria. The river expands in a short time and passes through important residential and industrial areas in Bulgaria. After travelling approximately 200 km in Bulgaria, the Evros River passes through cities such as Pazardzhik, Plovdiv, Dimitrovgrat and Mustafa Pasha and enters the Turkish territory near Edirne, around Karaagac station. Within the Turkish borders, it first merges with the Arda River and then joins the Tunca River south of Edirne.

The Evros River divides into two main branches in the south. The first branch passes through Greece and flows into the Saroz Gulf. The other branch forms swamps and ponds such as Lake Gala and flows into the Saroz Gulf (Aegean Sea) near Enez from Turkish territory.

Ergene Stream is a tributary of the Meriç River and is the largest river in Kırklareli. It originates from Istranca (Yıldız) Mountains and reaches Edirne provincial borders near Pehlivanköy by travelling 80 km with its many tributaries. Ergene Stream is a river with little water in summer and abundant water in winter and autumn. Tributaries such as Paşaköy, Lüleburgaz, Sulucak and Şeytan Deresi join Ergene Stream and form this river. Ergene River, which flows following the Turkish-Greek border for a long time, merges into the Meriç River near İpsala District.

The Arda River originates in the Rhodope Mountains of Southern Bulgaria. It is the largest river in the Rhodopes and one of the most important rivers in Thrace. The total length of the river is 180 kilometers. Arda River enters Edirne through Pazarkule border gate and after 1 kilometre after entering Turkish territory, it merges with the Evros River in Greek territory at Ardakule. Afterwards, it flows eastwards and includes the Tunca River. Its total length is 290 km, 241 km in Bulgaria and 49 km in Greece.

Teke Stream is a stream with a large catchment basin. Teke Stream, born in the west of Yıldız Mountains, is 80 km long. It joins the Ergene River east of Pehlivanköy. Among its main tributaries are Köy Stream, Süloğlu Stream, which becomes Havsa Stream in the lower sections, and Ana streams. The water carrying capacity of Teke Stream shows significant changes during the year.

Lüleburgaz Stream originates from the southern slopes of Yıldız Mountains. After merging with Poyralı, Laleliye and Kaynarca streams in the north of Lüleburgaz, it merges into the Ergene River. The stream dries up in summer and its total length is 58 km.

Soğucak Stream originates near Soğucak Village of Vize. Although it is 55 km long, it dries up in summer months due to the small size of its catchment area.

The Tunca River is one of the most important rivers in Thrace and also one of the major tributaries of the Evros River. It originates from Montenegro in Bulgaria and has a total length of 48 km. A 12 km section of the Tunca River forms the Türkiye-Bulgaria border. It enters the borders of Edirne at Uzunbayır and flows south until Suakacağı Village, forming the Türkiye-Bulgaria border and then merges with the Meriç River at Kirişhane in Edirne.

Suluçak Stream originates from the south of Mahya Mountain and is fed by some side springs and enters the Ergene River around Ovacık. Suluçak Stream, which is approximately 55 km long, does not have a large catchment area.

The Rezve Stream originates from the Strandja (Yıldız) Mountains and has a fast flow. It forms the Turkish Bulgarian border.

Babaeski Stream originates from Strandja and heads westwards around Katranca. After travelling parallel to Ergene for a short distance, it merges with Ergene River to the west of Tilkipınar. The water collection basin of the stream, which is approximately 60 km long, is approximately 762 km². The water potential of Babaeski Stream is quite high and its bed does not dry out even in dry periods.

Paşaköy Stream is also known as Mainstream and Vize Stream. It originates from Istıranca Mountains around Evrencik in the north of Vize. The stream, which is born at an altitude of approximately 510 m, takes a few more springs south of Vize and proceeds south-westwards and merges into the Ergene River around Çiftlikköy.

Hayrabolu Stream (Anaçay) is the tributary of the Ergene River, which is joined by many wet and dry streams, with the largest catchment basin. The length of the catchment basin, which is 50 km at its widest point, is 52 km and its total area is 1485 km². The representation of the surface water resources in the basin on the map is given inFigure 12 and the river network and settlement map of the basin outside the boundary Figure 13 . (TRAGEP, 2013) . Accordingly, the pre-risk rivers that may cause flooding in the basin are given inFigure 14 .

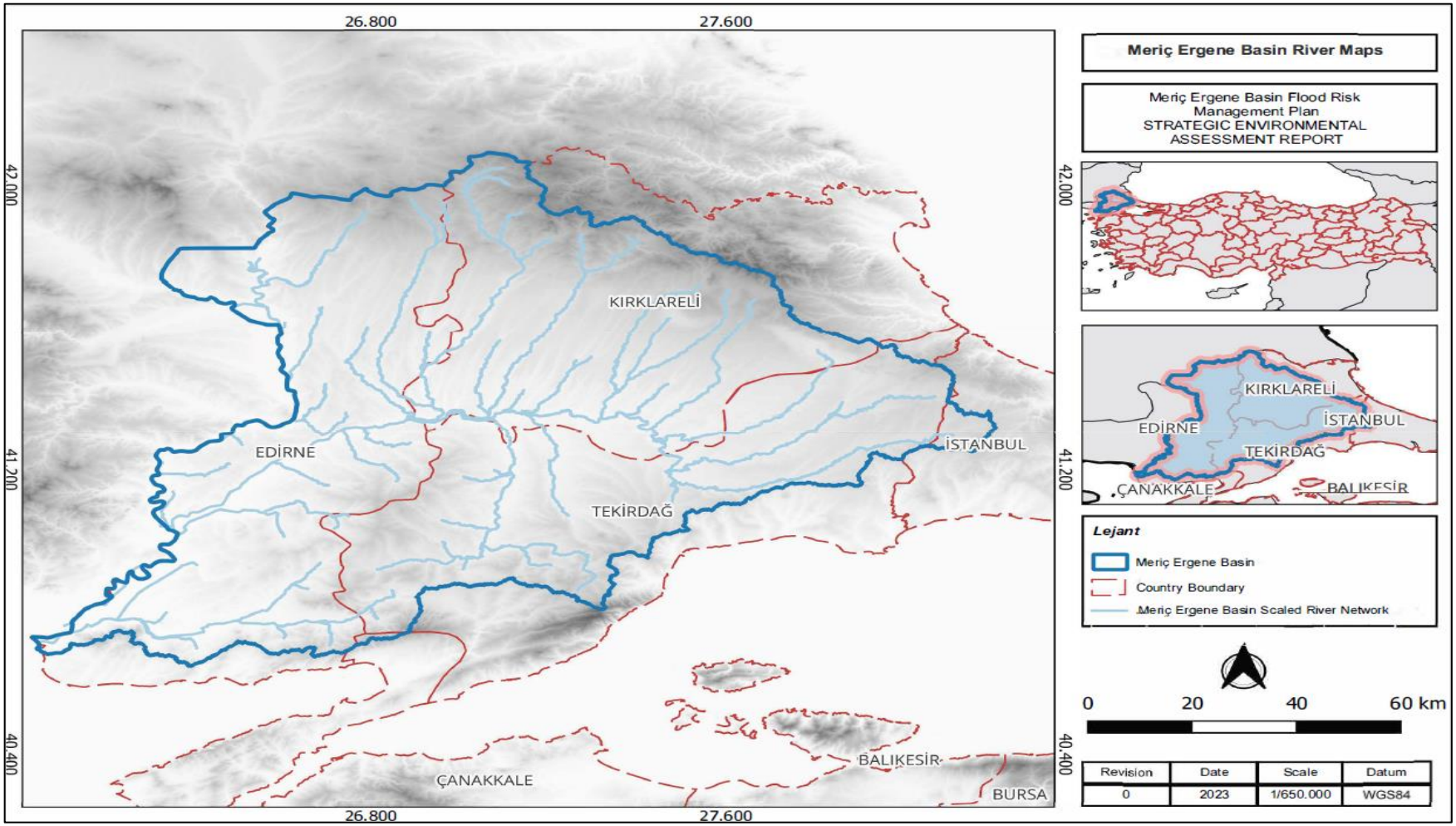


Figure 12 . Meriç-Ergene Basin Scaled River Network Map

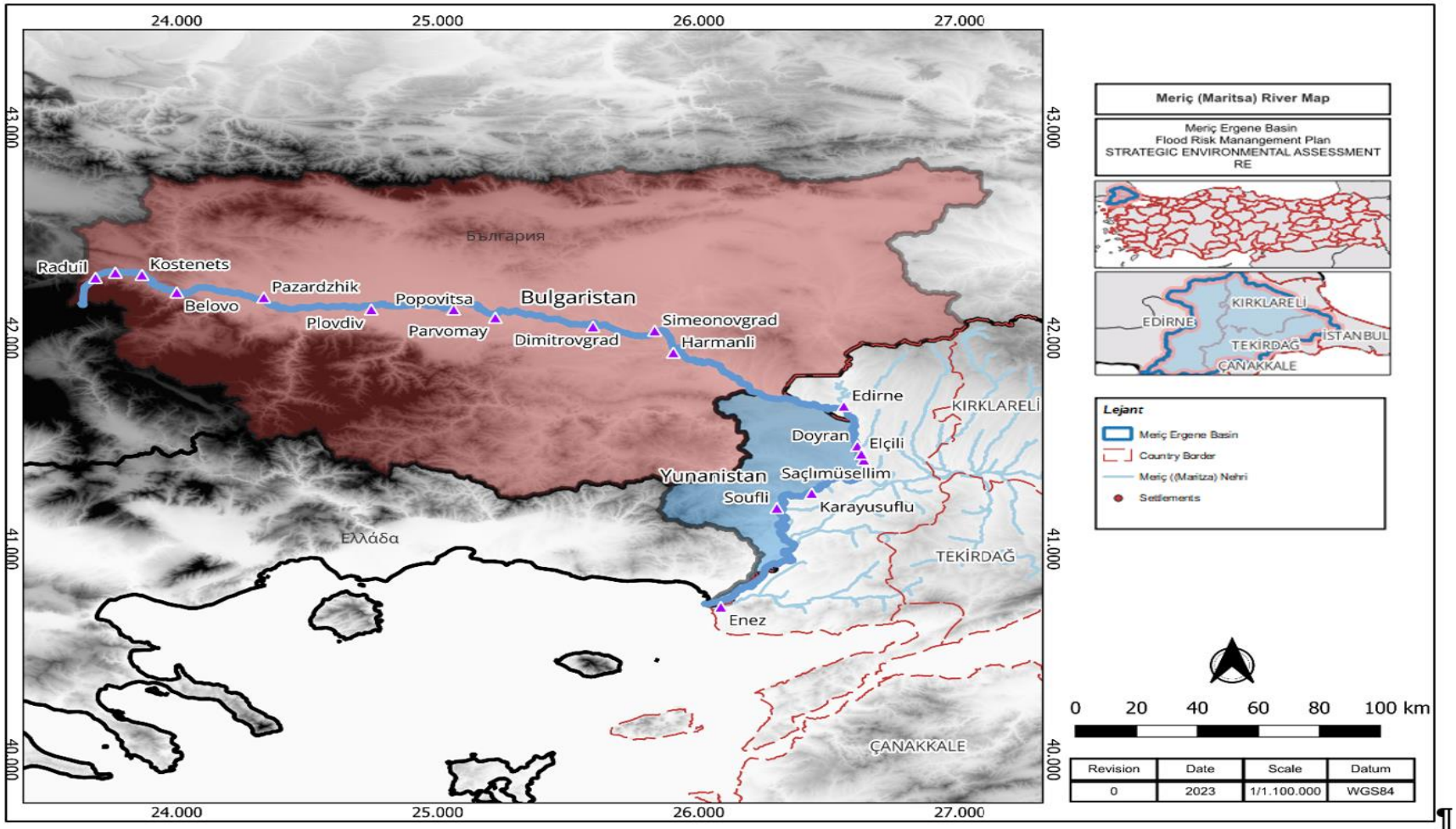


Figure 13 . Meriç-Ergene River Out of Border River Map

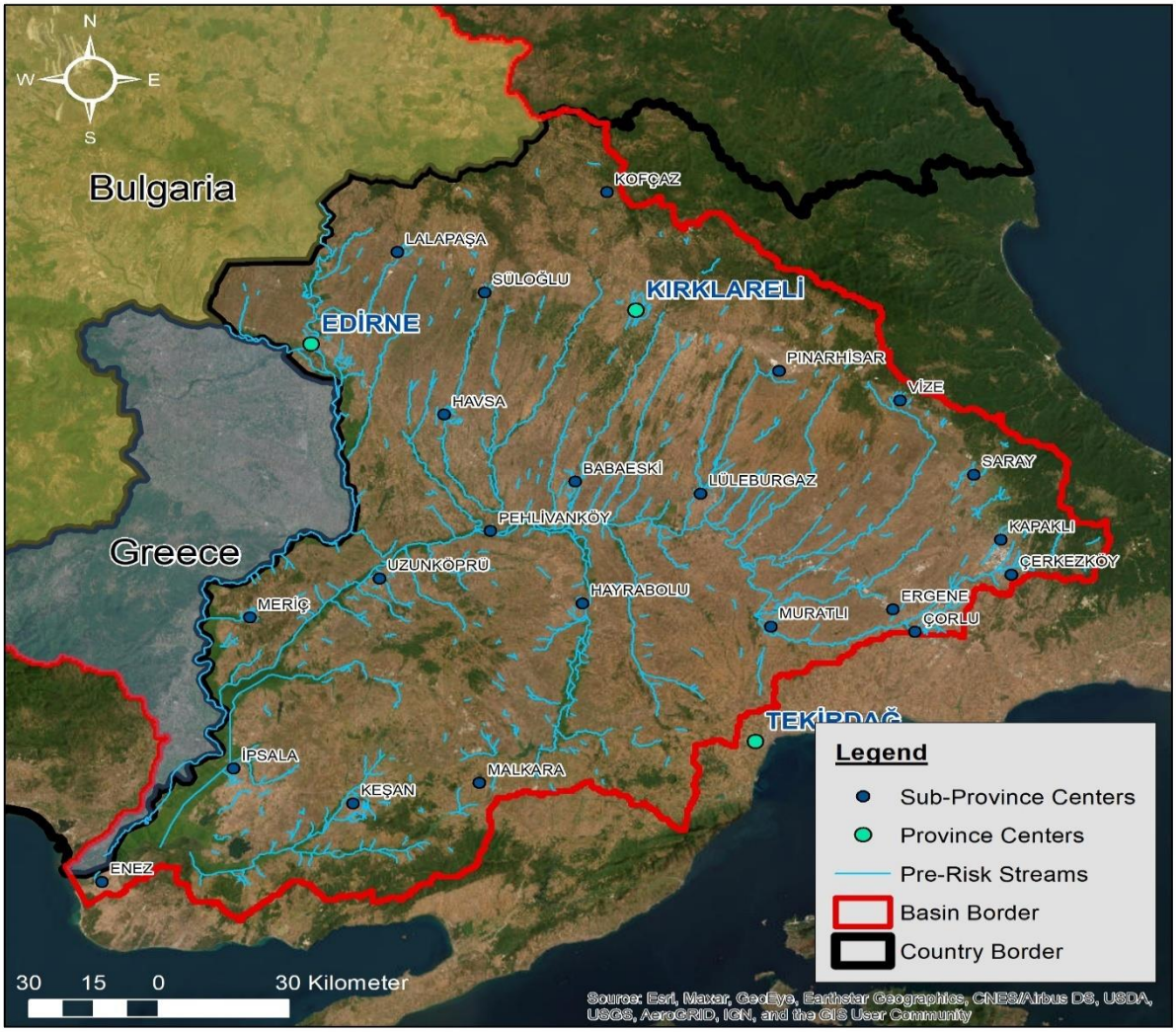


Figure 14 . Preliminary Risky Streams Identified in the Basin (Flood Risk Preliminary Assessment Report, 2022)

Current Monitoring Stations

While creating flood management plans, it is very important to calculate the assets of water resources in the surface water basins. Current observation stations provide basin-based flow data for a long period of time, including previous years (seeFigure 15).

Locations of Flood Control Facilities in the Basin is shown in Figure 16. One of the objectives of the Flood Risk Management Plan is the effective use of flood control facilities on this map and minimising the degree of impact of flooding.

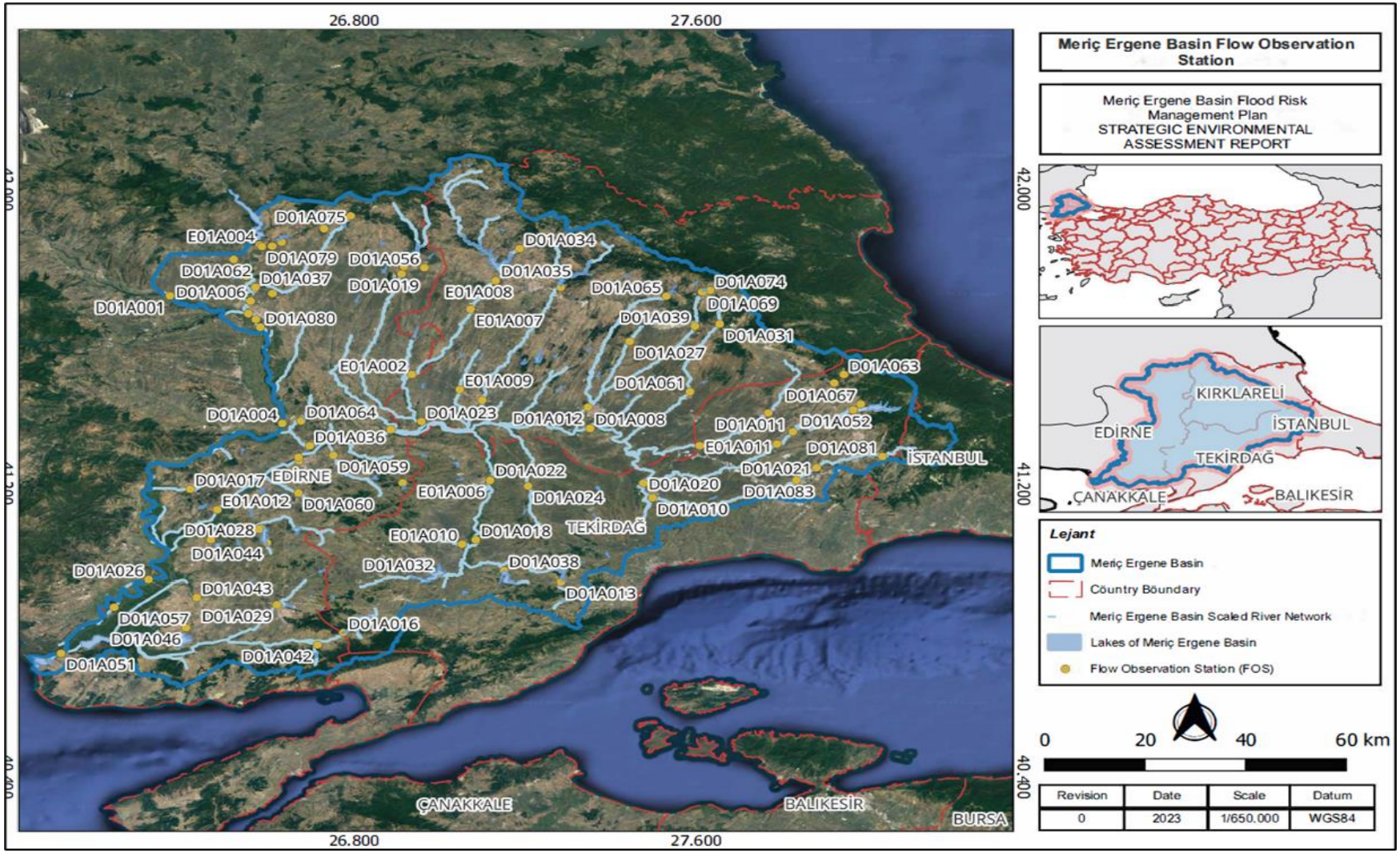


Figure 15 .Meriç-Ergene Basin Current Observation Stations (COS) Map

Figure 16 . Flood Areas and Flood Area Streams (Flood Risk Preliminary Assessment Report, 2022)

Lakes

Another important surface water source in the Meriç-Ergene Basin is lakes. The number of natural lakes untouched by human hands is quite limited in the basin. Gala, Dalyan, Taşaltı, I. and II. Tuzla, Bücürmene are the main natural lakes in the basin. In the basin, there are mostly ponds with greatly modified features. The list of the lakes in the basin is presented below.

There are also dam lakes planned for different purposes within the Meriç-Ergene Basin. The storage facilities in the basin were evaluated one by one by comparison with the existing databases, information received from the relevant institutions and current satellite images. The identified lakes are classified as storage facilities, dams and ponds. In terms of dams in the Meriç-Ergene Basin;

- 1 dam in the planning stage,
- 6 dams in the project phase,
- 2 dams under construction,
- There are 9 dams in operation.

In terms of ponds;

- 17 ponds in the planning stage,
- 13 ponds in the project phase,
- 33 ponds under construction,
- There are 138 ponds in operation.

The locations of dams and ponds in the basin are shown in Figure 17 .

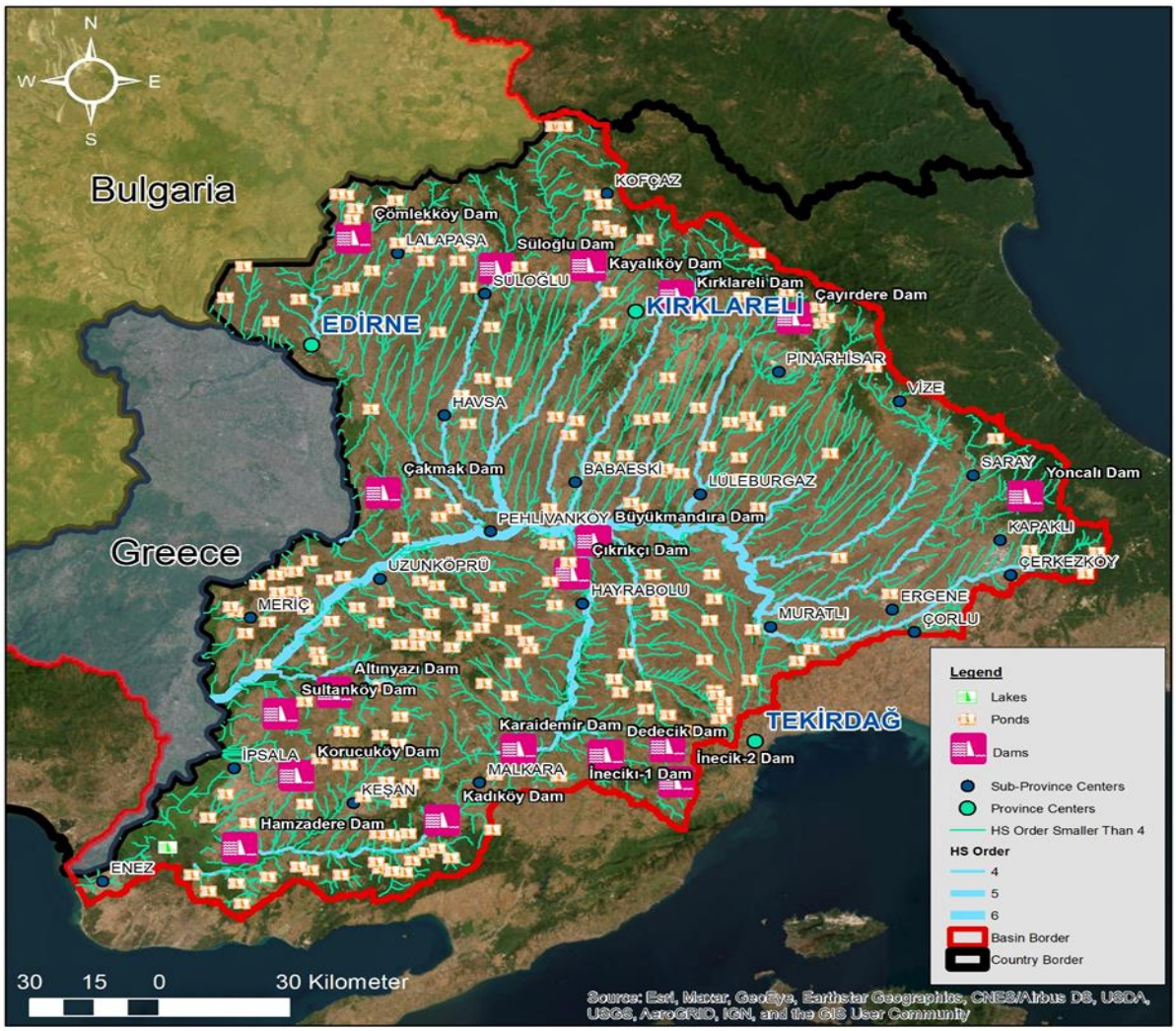


Figure 17 . Location of Dams and Ponds in the Basin (Flood Risk Preliminary Assessment Report, 2022)

The storage facilities located in Bulgaria and Greece on Meriç River tributaries, Tunca and Arda Rivers and their characteristics are given in Table 8.

Table 8 . Storage Facilities Located Beyond the Border

Name	Stream	Volume (hm^3)	Objective
Topolnitsa Dam	Meric Side Arm	137,1	Irrigation
Belmeken Dam	Meric Side Arm	144	Energy
Chaira HES	Meric Side Arm	5,5	Energy

Name	Stream	Volume (hm^3)	Objective
Batak Dam	Meric Side Arm	310,3	Energy
Beglika Dam	Meric Side Arm	1,6	Energy
Golyam Beglik (with Shiroka Polyana)	Meric Side Arm	62,1	Energy
Toshkov Chark Dam	Meric Side Arm	1,8	Energy
Shiroka Polyana Dam (with Golyam Beblik)	Meric Side Arm	24	Energy
Krichim Dam	Meric Side Arm	20,3	Energy
Tsankov Kamik Dam	Meric Side Arm	110,7	Energy
Pyasachnik Dam	Meric Side Arm	206,5	Irrigation
Domylyan Dam	Meric Side Arm	26,1	Irrigation
Koprinka Dam	Tunca River	142	Energy
Borovitsa Dam	Arda River	27	Water Allocation
Kardzhali Dam	Arda River	497	Energy
Trakietz Dam	Meric Side Arm	114	Irrigation
Studen Klanets Dam	Arda River	388	Energy
Ivaylovgrad Dam	Arda River	157	Energy
Rozov Kadenetz	Meric Side Arm	20,4	Energy
Vinishte	Meric Side Arm	226,1	Energy
Ovcharica Dam	Meric Side Arm	62,5	Energy
Jrepchova Dam	Tunca River	400	Irrigation-Energy
Asenovetz Dam	Tunca River	28,2	Water Allocation
Malko Sarkovo Dam	Tunca River	45	Irrigation

The locations of these storage facilities are given in Figure 18 .

Figure 18 . Cross-border Storage Facilities in the Meriç-Ergene Basin (Flood Risk Preliminary Assessment Report, 2022)

Table 9. Ponds in the Meriç-Ergene Basin

Name of Storage Facility	Phase	Province	Stream name	Purpose
Akardere Pond	In Business	Edirne		
Akcadam Pond	In Business	Edirne		S (Irrigation)
Akhoca Pond	In Business	Edirne		
Hawthorn Regulator	In Business	Edirne	Basamaklar Stream	S+T (Flood)
Altintas Pond	Under Constructio n	Edirne	Kanlikavak Stream	S
Aslihan Pond	Project	Edirne	Sources Stream	S
Avariz Pond	Project	Edirne	Deveciköprü Stream	S
Bahcekoy Pond	In Business	Edirne	Cevizlik Creek	S
Balaban Pond	In Business	Edirne		

Name of Storage Facility	Phase	Province	Stream name	Purpose
Basagil Pond	In Business	Edirne	Anadere	S+T
Basdere Pond	Planning	Edirne	Basdere	S
Beykonak Pond	In Business	Edirne	Kocadere	S+T
Boztepe Pond	In Business	Edirne	Kocadere	S+T
Budakdoğanca Pond	In Business	Edirne	Karaagac Stream	S
Bülbüldere Pond	In Business	Edirne	Bülbüldere	S
Buyukogunlu Pond	Under Construction	Edirne	Dolap Creek	S
Camlica Pond	In Business	Edirne	Gözlüklüdere	S+T
Ciftlikkoy Pond	In Business	Edirne	BeyDeresi	S
Cömlekkoy Dam	Under Construction	Edirne	Tunca River	S
Çöpköy Pond	Project	Edirne	Kapaklı Stream	S
Degirmenci Pond	In Business	Edirne	Dobralıdere	S+T
Degirmenyani Pond	Under Construction	Edirne	Çılgan Stream	S
Demirkoy Pond	Planning	Edirne		S
Derekoy Pond	In Business	Edirne		
Dogankoy Pond	Under Construction	Edirne	Shepherd Stream	S
Dokuzdere Pond	In Business	Edirne	Dokuzdere	S+T
Dombay Pond	In Business	Edirne	Koprüler Stream	S
Dombay HIS Pond	Planning	Edirne	Ayazma poplar stream	S
Elmali Pond	In Business	Edirne	Kalebayiri Stream	S
Eskikadın Pond	In Business	Edirne	Kurdish Creek	S
Gazihalil Pond	In Business	Edirne	Gazihalil Stream	S
Gazimehmet Pond	In Business	Edirne	Main Stream	S
Geçkinli Pond	In Business	Edirne		
Habiller Pond	In Business	Edirne		
Hacıçeşmedere Pond	In Business	Edirne		
Hamzadere Dam	In Business	Edirne	Pumpage from the Evros River, hamzadere	S
Harmanli Pond	In Business	Edirne	Ketenlik Stream	S
Hasanpinar Pond	In Business	Edirne		
Hasanpinar Pond	Project	Edirne	Fishy Creek	S
Hasırcıarnavut Pond	In Business	Edirne		
Ihlamurdere Pond	In Business	Edirne	Ihlamurdere	S
Işıklı Pond	Planning	Edirne	Black Creek and Derinkara Creek	S
Kadikoy Pond	In Business	Edirne	Cattle stream	S+T
Karaagac Pond	Under Construction	Edirne	Mountain Stream	S
Karaburcek Pond	In Business	Edirne	Sarımeşe and Göller Stream	S
Karahisar Pond	Planning	Edirne	Şeytan Stream	S
Karasatı Pond	In Business	Edirne	Kurtgeçidi Stream	S+T

Name of Storage Facility	Phase	Province	Stream name	Purpose
Karayayla Pond	In Business	Edirne		
Karayusuf Pond	Planning	Edirne	Karayusuf Stream	S
Karayusuflu Pond	In Business	Edirne		
Karlikoy Pond	In Business	Edirne	Anadere	S+T
Kartalkaya Pond	Under Constructio n	Edirne	Kartalkaya Stream	S
Kavacik Pond	In Business	Edirne	Pinarcik Creek	S
Kavakayazma Pond	In Business	Edirne	Buyukdere	S
Kavakdere Pond	In Business	Edirne	Kavakdere	S+T
Kavakdere Pond	Project	Edirne	Kavakdere	S+I (Drinking)
Kavaklı Pond	In Business	Edirne	Dark stream	S+T
Keramettin Pond	In Business	Edirne	Kocadere	S
Kirkkavak Pond	In Business	Edirne	Ayvali Stream	S
Kocadere Pond	In Business	Edirne	Kocadere	S+T
Kocahidir Pond	In Business	Edirne		
Korucuköy Dam	Project	Edirne	Evros River-Gölbaşı Stream	S
Korucuköy Pond	In Business	Edirne	Korucuköy Stream	S
Koyuntepe Regulator	In Business	Edirne	Geren Stream	T
Küçükaltıağaç Pond	Project	Edirne	Pinar Stream	S
Kucukdoganca Pond	In Business	Edirne	Agil Stream	S
Kumdere Pond	In Business	Edirne	Kandemir Stream	S
Küpdere Pond	In Business	Edirne	Gıcırlık Stream	S
Kurtbey Pond	In Business	Edirne	Karacaorman Stream	S
Kuzgun Creek Covering Sedge	Under Constructio n	Edirne	Kuzgun Stream	S
Lalacik Pond	Under Constructio n	Edirne	Tuzla Stream	S
Lalapasa-1 Pond	In Business	Edirne	Kocadere	S
Lalapasa-2 Pond	In Business	Edirne	Sırkçadere	S
Lalapasa Pond	In Business	Edirne		S
Mahmutkoy Pond	In Business	Edirne	Monastir Creek	S
Malkoc Pond	In Business	Edirne		
Maltepe Pond	Under Constructio n	Edirne	Lalacık and bushy stream	S
Mandadere Pond	Under Constructio n	Edirne	Manda Creek	S+I
Menekşesofular Pond	Project	Edirne	Poplar Stream	S
Mercan Pond	In Business	Edirne	Sycamore Stream	S
Meriç Centre Pond	In Business	Edirne	Saatagaci Stream	S+T
Muzalıdere Pond	In Business	Edirne	Muzalidere	S+T
Will Pond	In Business	Edirne		
Ottoman Pond	In Business	Edirne	Bostanlı Creek	S

Name of Storage Facility	Phase	Province	Stream name	Purpose
Paşayenice Pond	In Business	Edirne		
Rahmanca Pond	Project	Edirne	Yerlisu Stream	S
Rahmanca Pond	In Business	Edirne		
Shabandere Pond	In Business	Edirne		
Salarli Pond	Under Constructio n	Edirne	Lead Stream	S
Seydikoy Pond	In Business	Edirne	Teslimdeğirmen Stream	S
Sinit Pond	In Business	Edirne		
Sipahi Pond	Planning	Edirne	Dam stream and main stream	S
Söğütlüdere Pond	Under Constructio n	Edirne	Sogutludere	S
Subasi Pond	In Business	Edirne		
Şükrüköy-2 Pond	Project	Edirne	Sütlüce Ören Stream	S
Şükrüköy Pond	Project	Edirne	Cinarlik Stream	S
Sulecik Pond	In Business	Edirne		
Suloglu Dam	In Business	Edirne	Suloglu Stream	S+I+T
Sultankoy Dam	In Business	Edirne	Monastery Stream	S
Süpürgelik Creek Closure Sedge	Under Constructio n	Edirne	Supergelik Stream	S
Sütçüler Pond	In Business	Edirne		
Taslımüsellim Pond	In Business	Edirne		S
Tatarlar Pond	Project	Edirne	Teke Stream	S
Tayakadın Pond	In Business	Edirne	Pashadere	S
Tuğlalık Pond	Under Constructio n	Edirne	Pamukluk Stream	S
Turnaci Pond	In Business	Edirne		
Umurca Pond	Under Constructio n	Edirne	Toprakli Stream	S
Uzgac Pond	In Business	Edirne	Söğütlük Stream	S
Uzunbayir Pond	Under Constructio n	Edirne	Karaagac Stream	S
Yağmurca Pond	In Business	Edirne	Kömürocakları Stream	S+T
Yenikarpuzlu Pond	In Business	Edirne	Pumping from the Evros River	S
Yenimuhacir Pond	In Business	Edirne	Kunkçesme Stream	S
Altinyazi Dam	In Business	Edirne	Basamaklar Creek, Big Creek	S+T
Beğendik Pond	In Business	Edirne	Kayalidere	S+I
Cakmak Dam	In Business	Edirne	Cakmak Creek	S
Kucukdoganca Pond	In Business	Edirne	Snake Creek	S+T
Taptik Pond	Project	Edirne	Meadow Stream	S
Ahmetbey Pond	Under Constructio n	Kirklareli	Fountain Stream	S+I
Buyukmandıra Dam	Planning	Kirklareli	Yerlikaya Stream	S
Çengelli Pond	Planning	Kirklareli	Karakus Stream	S

Name of Storage Facility	Phase	Province	Stream name	Purpose
Elmacik-1 Pond	Planning	Kirklareli	Pig Creek	S
Elmacik-2 Pond	Planning	Kirklareli	Baglik Stream	S
Köseömer Pond	In Business	Kirklareli		
Sarıcaali Pond	In Business	Kirklareli		
Sayadere Pond	In Business	Kirklareli		
Akandere Pond	In Business	Kirklareli		
Akkadındere Pond	In Business	Kirklareli		
Ayvali Pond	In Business	Kirklareli		
B.Osmaniye Pond	In Business	Kirklareli		
Beyci-1 Pond	Under Construction	Kirklareli	Mile Dere	S+I
Beyci-2 (Malkoçlar) Pond	Under Construction	Kirklareli	Hemenli Creek	S
Cayirdere Dam	Under Construction	Kirklareli	Kocadere	S
Celaliye Pond	In Business	Kirklareli		
Çengelli Pond	In Business	Kirklareli		
Ceylanköy Pond	In Business	Kirklareli		
Cigdemli Pond	In Business	Kirklareli		
Cukurpinar Pond	In Business	Kirklareli		
Deveçatağı Pond	In Business	Kirklareli		
Dolhan Pond	In Business	Kirklareli	Cihanlar (saraçlarkuyusu) Stream	S
Erikler Pond	Project	Kirklareli	Erikler Stream	S+I
Eriklice Pond	Project	Kirklareli	Kavakdere	S
Ertugrul Pond	In Business	Kirklareli		
Evciler Pond	In Business	Kirklareli		S
Evrensekiz Pond	In Business	Kirklareli		
Hamzabey Pond	In Business	Kirklareli		
Islambeyli Pond	Planning	Kirklareli	Big Creek	S
Kadikoy Pond	Under Construction	Kirklareli	Kokurdan Stream	S
Karacaagac Pond	In Business	Kirklareli		
Karacaoglan Pond	In Business	Kirklareli		
Karahidir Pond	In Business	Kirklareli		
Katranca Pond	In Business	Kirklareli		
Kavakdere Pond	In Business	Kirklareli		
Kayalıköy Dam	In Business	Kirklareli	Teke Stream	S+I+T
Kirikkoy Pond	In Business	Kirklareli		
Kırklareli Dam	In Business	Kirklareli	Sheeytandere	S+I+T
Kofçaz-1 Pond	Under Construction	Kirklareli	Karsitepe Stream	S
Kofçaz-2 Pond	Under Construction	Kirklareli	Kanara Stream	S

Name of Storage Facility	Phase	Province	Stream name	Purpose
Kumrular Pond	Under Construction	Kirklareli	Kumrular Stream	S
Kurudere Pond	In Business	Kirklareli	Beypinar Stream	S
Oruçlu Pond	In Business	Kirklareli		
Reisdere Pond	In Business	Kirklareli		
Sakizkoy Pond	In Business	Kirklareli		
Sarıcaali Pond	In Business	Kirklareli	Taşköprü Stream	S
Sofuhalil Pond	In Business	Kirklareli	Korudere	S
Sofular Pond	Project	Kirklareli	Ayazma Stream	S
Tatarkoy Pond	In Business	Kirklareli		
Turgutbey Pond	In Business	Kirklareli	Sarpcha Stream	S
Skopje Goleti	In Business	Kirklareli	Red earth stream	S+I
Yenice (Pinarhisar) Pond	Under Construction	Kirklareli	Dolap Creek	S
Yündalan Pond	Planning	Kirklareli	Çoçuklar Stream	S
Dedecik Dam	Project	Tekirdag	Main Stream	S+I+T
Kadikoy Dam	In Business	Tekirdag	Doganca Creek	S
Yoncalı Dam	Project	Tekirdag	Yoncali Stream	İ
Ahmedikli Pond	Under Construction	Tekirdag	Catalak Stream	S
Aydinlar Pond	Planning	Tekirdag	Zafirin Stream	S
Ayvacik Pond	Under Construction	Tekirdag	Mekan Dere	İ
B. Karakarlı Pond	In Business	Tekirdag		
Balabanlı Pond	Planning	Tekirdag	Sarp Dere	S
Bayramsah Pond	In Business	Tekirdag	Sinekli Stream	S
Bıyıkali Pond	In Business	Tekirdag	Degirmenler Stream	S
Buzagaci Pond	Under Construction	Tekirdag	Paspal Creek	S
Çerkezköy Pond	In Business	Tekirdag	Karaahmetgölü Stream	I+G (Other)
Cerkezmüsellim Pond	In Business	Tekirdag		
Çıkrıkçı Dam	Project	Tekirdag	Kumluca	S
Cinaralti Pond	In Business	Tekirdag		
Çitme D. Pond	In Business	Tekirdag		
Dambaslar Pond	In Business	Tekirdag		
Emiryakup Pond	Under Construction	Tekirdag		S
Ferhadanli Pond	In Business	Tekirdag	Güveçlisuvatlar Stream	S
Gokyar Pond	In Business	Tekirdag	Gokyar Stream	S+I
Gonence Pond	Under Construction	Tekirdag	Besyatak Stream	S

Name of Storage Facility	Phase	Province	Stream name	Purpose
Gozsüz Pond	Under Construction	Tekirdag	Balkanaltı Stream	S
Hanoglu Pond	In Business	Tekirdag	Yamaklık Stream	S
Haskoy Pond	Planning	Tekirdag		S
Haskoy Regulator-1	Planning	Tekirdag		S
Haskoy Regulator-2	Planning	Tekirdag		S
Hayrabolu Centre Pond	In Business	Tekirdag		
Hedeyli Pond	In Business	Tekirdag		
Inanlı Pond	In Business	Tekirdag	Ulaş Stream	S
Inecik-2 Dam	Project	Tekirdag	Main Stream	S+I+T
Inecikı-1 Dam	Project	Tekirdag	Inecik Stream	S+I+T
Karacakılavuz Pond	In Business	Tekirdag		
Karagür Pond	In Business	Tekirdag		
Karaidemir Dam	In Business	Tekirdag	Poğaça (karaidemir) Stream	S
Karakavak Pond	In Business	Tekirdag		
Karayahşi Pond	In Business	Tekirdag		
Kaşıkçı Pond	In Business	Tekirdag		
Kırkkepenekli Pond	In Business	Tekirdag		
Küçükhıdır Pond	In Business	Tekirdag		
Kumdere Pond	In Business	Tekirdag		
Misinli Pond	Planning	Tekirdag	Lokatka Stream	S
Müsellim Pond	In Business	Tekirdag		
Örey Pond	In Business	Tekirdag		
Ortacakoy Pond	In Business	Tekirdag		
Ottoman-1 Pond	Under Construction	Tekirdag	Kokarca Creek	S
Ottoman-2 Pond	Under Construction	Tekirdag	Kabacalar Stream	S
Ottoman-3 Pond	Under Construction	Tekirdag	Damlarca Stream	S
Ottoman-4 Pond	Under Construction	Tekirdag	Çengel Stream	S
Parmaksız Pond	In Business	Tekirdag		
Söğütlü D. Pond	In Business	Tekirdag		
Temrezli Pond	In Business	Tekirdag	Suluca Stream	S
Teteköy Pond	Planning	Tekirdag	Kaynarcalar Creek	S
Ulaş Pond	In Business	Tekirdag	Ayıtepe Stream	S
Yaylagöne Pond	In Business	Tekirdag		
Yaylakoy Pond	Under Construction	Tekirdag	Yaylaköy Stream	S
Yenidibek Pond	In Business	Tekirdag		
Ambardere Pond	Project Cancellation	Istanbul		İ

Name of Storage Facility	Phase	Province	Stream name	Purpose
Cayirdere Pond	In Business	Istanbul	Cayirdere	S
Sayalar Pond	In Business	Istanbul	Gakci Stream	S

The representation of the lakes, ponds and dams in the basin on the map is given in Figure 19.

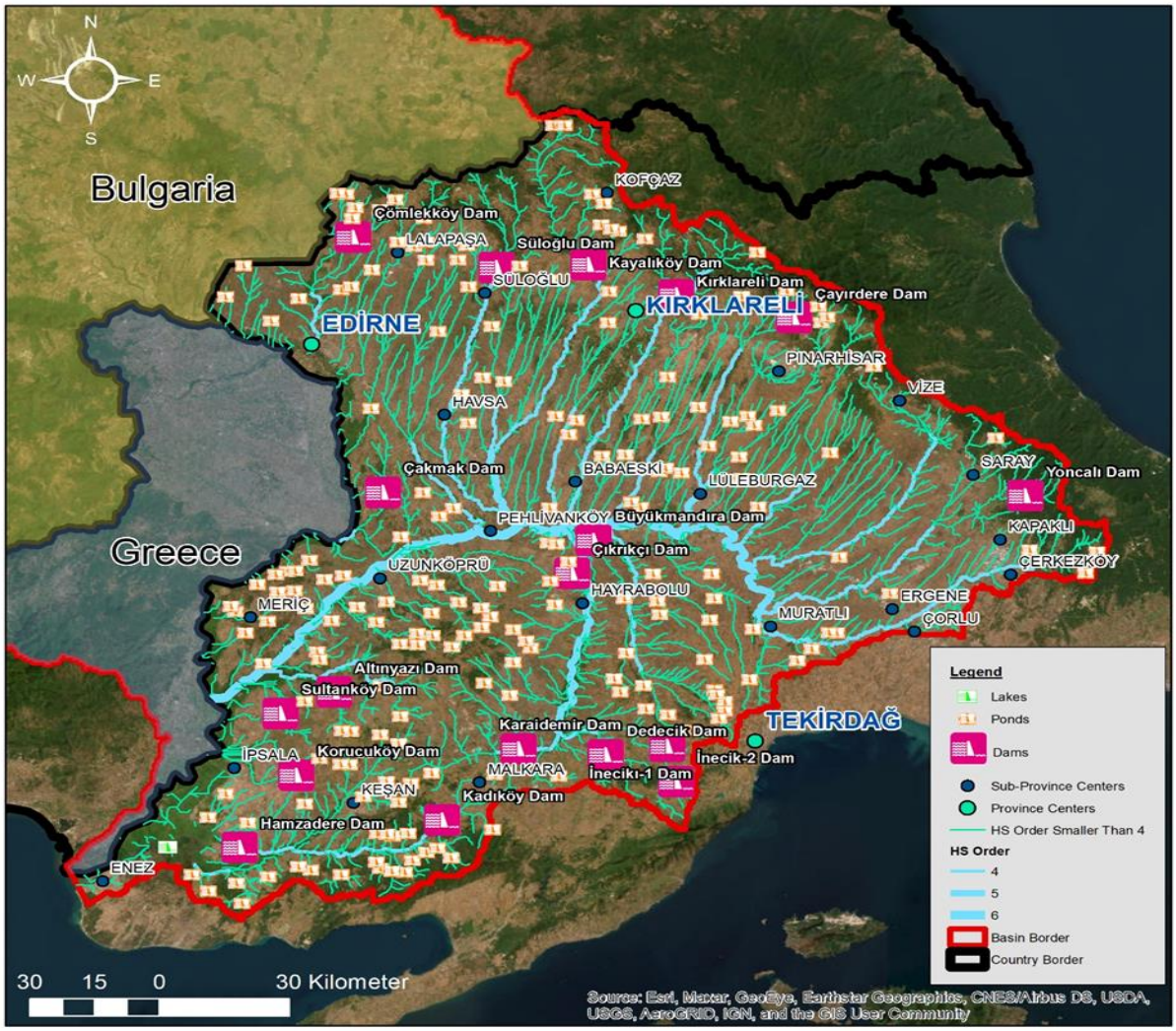


Figure 19 . Meriç-Ergene Basin Lakes, Ponds and Dams Map (Flood Risk Preliminary Assessment Report, 2022)

3.1.3.2. Underground Water Resources

In the regions of our country where the farmer population is dense and the industry is located, the demand for groundwater increases due to the insufficiency of surface waters. In regions where surface waters cannot meet the demand, excessive use of groundwater is realised especially due to the demand for drinking-utility water and irrigation water. This situation has made it necessary to keep the reserve-abstraction relationship under control by supporting it with modern irrigation systems for a sustainable groundwater management.

In the Thrace region, the industrial utilisation of groundwater that feeds the Ergene River threatens the river ecosystem. Excessive withdrawal of groundwater decreases the flow rate of Ergene and excessive utilisation leads to deterioration in the source water quality. Therefore, it is very important to determine the amount of groundwater utilisation, to ensure effective, efficient and economical use and to manage it sustainably.

The section suitable for groundwater exploitation within the borders of Tekirdağ province is the Ergene formation extending NW-SE along the route of Çorlu - Muratlı - Hayrabolu districts and approximately 30 km in width.

Annual Groundwater Potentials by Basins published by the General Directorate of State Hydraulic Works (DSİ) within the scope of DSİ 2023 Official Water Resources Statistics gives the amount of groundwater resources in basin specific. Accordingly, 507.7 hm^3/year of Türkiye's total groundwater supply of 23032.3 hm^3/year consists of the Meriç-Ergene Basin. 498,2 hm^3/year of Türkiye's 17815,3 hm^3/year groundwater operating reserve is from Meriç-Ergene Basin (see Table 10 and Figure 20).

Table 10 . Groundwater Supply and Reserve Data for the Meriç-Ergene Basin between 2022 and 2023[4]

Basin No	Basin Name	2022		2023	
		Groundwater Supply (hm^3/year)	Groundwater Operating Reserve (hm^3/year)	Groundwater Supply (hm^3/year)	Groundwater Operating Reserve (hm^3/year)
1	Meric - Ergene	507.7	498.2	507.7	498.2
Türkiye Total		**23032.3**	**17815.3**	**23032.3**	**17815.3**

[4] Source: DSI 2023 Official Water Resources Statistics: Devlet Su İşleri Genel Müdürlüğü

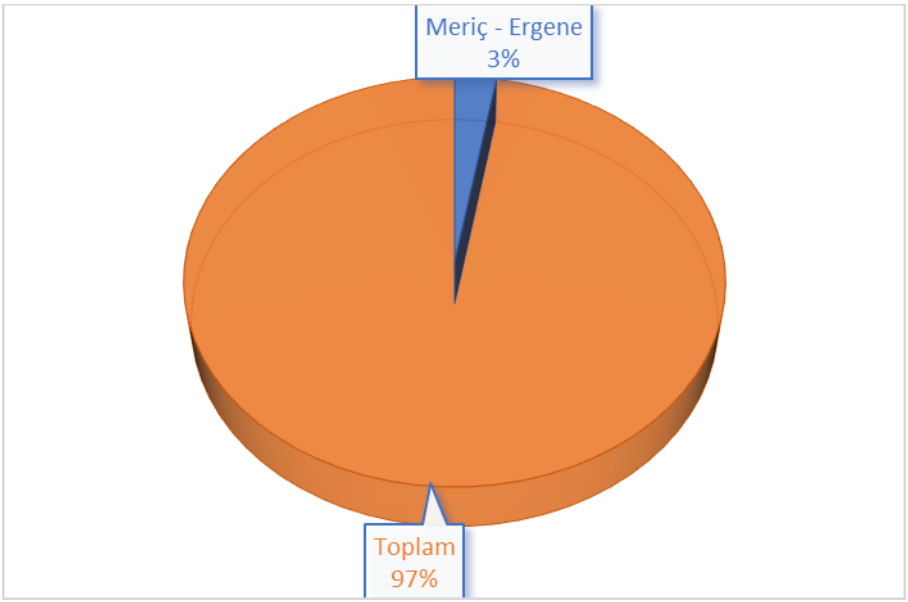


Figure 20 . Annual Groundwater Potential Comparison by Basins (hm³/year), 2022-2023 (General Directorate of DSİ-2023)[4]

3.1.3.3. Water Quality

In the Meriç-Ergene Basin, water demand for drinking and utilisation purposes is met from groundwater and surface water resources. There are widespread point and diffuse pollutant pressure factors in the basin, which adversely affect the water quality.

The impact of industrial intensity on water pollution in the region is much higher than all other pollutant factors. It is known that the water polluted by the untreated waste water from the industries disrupts the ecological balance and the pollutants in the water damage the soil and vegetation when it is used as irrigation water. Industrial wastes with high pollution rate mixed into the Ergene River cause agricultural economic losses and ecological destruction. The presence of industrial establishments that contaminate the Ergene River water with highly toxic chemicals damages the wetland ecosystem both in the river beds and in the accumulation areas and poses a threat to life. The irrigation water quality of the Meriç, Tunca and Ergene Rivers has decreased significantly due to pollution from existing settlements and industrial facilities and the use of Ergene water has become significantly unfavourable.

Industrial Pollution Sources

The industrial elements and their numbers in the basin are presented in the following Figure 21 . When the facilities in the basin are taken into consideration, it is seen that while vehicle factories and repair shops are in the first place, textile and food industry are in the second place.

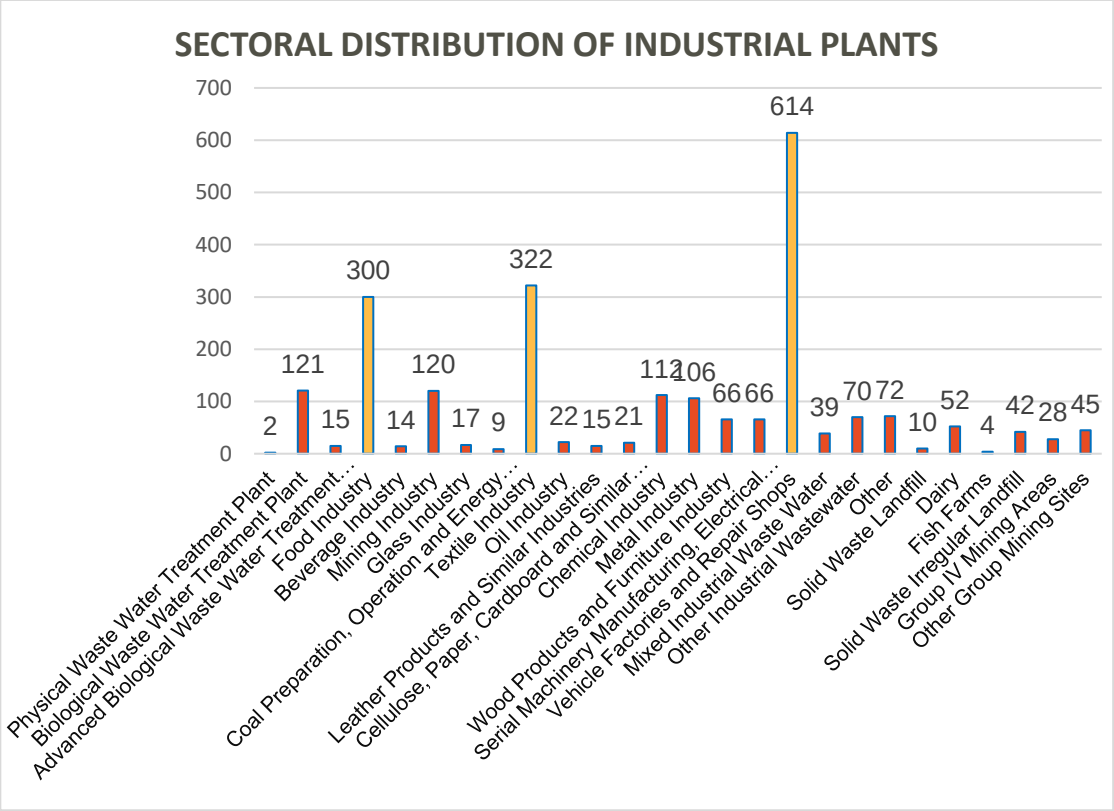


Figure 21 . Industrial Elements in the Basin and Their Numbers

Considering the pollutants originating from vehicle factories, metals used during factory processes can leach into water systems and cause water pollution. Especially heavy metals adversely affect water quality and may damage ecosystems. Oils and chemicals used in engine assembly, painting processes and similar production stages can cause water pollution by mixing into wastewater. These substances may cause toxic effects on aquatic organisms. Paints and solvents used in vehicle painting processes can mix with water and pollute it. These substances can often be toxic and affect aquatic ecosystems. General wastewater from factory processes can contain various pollutants. This wastewater can enter water systems directly before being passed through wastewater treatment systems.

The textile industry can use large amounts of water in its production processes and the wastewater generated in these processes. These water wastes often contain various pollutants and can lead to water pollution. Dyes, processing chemicals and auxiliaries used in textile production can cause the presence of various chemical substances in wastewater. These substances can adversely affect water quality and damage aquatic ecosystems. Reactive chemicals used in some textile processing processes can be toxic and harmful when mixed with water. These chemicals can cause adverse effects on aquatic organisms and ecosystems. Acids and alkaline substances used during textile processing can disrupt the pH balance by mixing into wastewater. This can lead to imbalances in aquatic ecosystems and affect aquatic organisms. Colourants and ammonia produced in some textile processing processes can change the colour of wastewater and reduce water quality. Textile wastes often contain organic substances. These organic substances can lead to oxygen consumption by decay processes in aquatic systems, reducing the oxygen content of water.

Wastewater from food processing plants contains organic and chemical substances. These wastes can cause water pollution when discharged into water bodies. Chemical substances such as pesticides, fertilisers, preservatives and additives used in food production can be released into the environment during and after production processes.

The use of materials such as paints and solvents in the vehicle and textile industry results in the release of volatile organic compounds (VOCs) into the atmosphere. NOx from combustion processes in vehicles can contribute to air pollution. Fine particulate matter from vehicle exhausts and brakes can cause respiratory problems and environmental pollution. Floods are not directly associated with air pollution, but increased humidity in the atmosphere can cause floods to trigger factors that cause air pollution. High humidity can cause pollutants to hold more in the atmosphere.

Food production, processing and transport processes are often energy intensive. The use of fossil fuels results in the emission of greenhouse gases during energy production. Air emissions from energy sources used during food production (e.g. ovens, steam boilers) can be released into the atmosphere. These emissions may include pollutants, particularly those produced by the combustion of fuels.

When pollutants are released into the air from factories, they can stick to surfaces such as the ground. When it rains or snows, these pollutants enter rivers and lakes. This runoff can carry harmful substances into our water and cause water pollution. Some gases, especially from places like factories, can get into the air and form acid rain. When it rains, this acid rain falls to the ground and can damage plants, animals and surface water sources. The polluting effect of emission sources on water should also be taken into consideration.

However, Organised Industrial Zones (OIZ) are areas where industrial activities are intensively carried out. Water pollution in these areas is generally caused by wastewater from factories and other pollutants.

Wastewater generated during the production processes of factories operating in OIZs contains various chemicals. These chemicals can mix into water systems through wastewater and cause water pollution. Oils, lubricants and other substances used in factories such as automotive and metal processing plants can cause pollution by mixing with water. Important OIZs in the basin are listed below;

- Edirne OIZ
- Kirklareli OIZ
- Kirklareli Buyukkarıştıran OSB
- Tekirdag Hayrabolu OSB
- Tekirdag Yalıboyu OSB
- Tekirdag Velimeşe OSB
- Tekirdag Ergene- 2 OIZ
- Tekirdag Ergene- 1 OIZ
- Tekirdag Muratli OSB
- Tekirdag Corlu Leather OIZ
- Tekirdag Cerkezkoy OSB
- Tekirdag Velikoy OSB
- Tekirdag Malkara OSB
- Capped European Osb

OIZs contribute to urban planning by gathering the industry within the city in a single region. This practice has the objectives of increasing production efficiency, increasing profits and

spreading industry to underdeveloped regions. At the same time, it prevents air and noise problems in the city centre by reducing environmental pollution. Thanks to the common wastewater treatment facilities established in OIZs, it makes it possible to dispose of industrial wastes more effectively and at low cost

In 2017, one of the investments made with the Domestic and Industrial Pollution Control works carried out within the scope of the Meriç-Ergene Basin Protection Action Plan prepared within the scope of the Meriç-Ergene Basin Protection Action Plan is to combine the effluents of Large Capacity OIZ Wastewater Treatment Plants (WWTP) with a collection system (pipelines and tunnels) and transfer them to the neighbouring Marmara Sea basin through a common main transmission and deep discharge pipeline. "Collection Lines, Tunnels and Deep Discharge System for the Discharge of Treated Wastewater from OIZ Joint Wastewater Treatment Plants in the Ergene Basin to the Marmara Sea" project (seeFigure 22) is being carried out for industrial wastewater from OIZ Treatment Plants. As a result of the project, industrial wastewater will not be discharged into the Ergene River and it is aimed to rapidly improve the water quality of the Ergene River. Thanks to the deep discharge systems within the scope of the project, it is aimed to reduce the pollution rate in the streams that are likely to overflow during floods and to spread the pollution sources in case of flood.

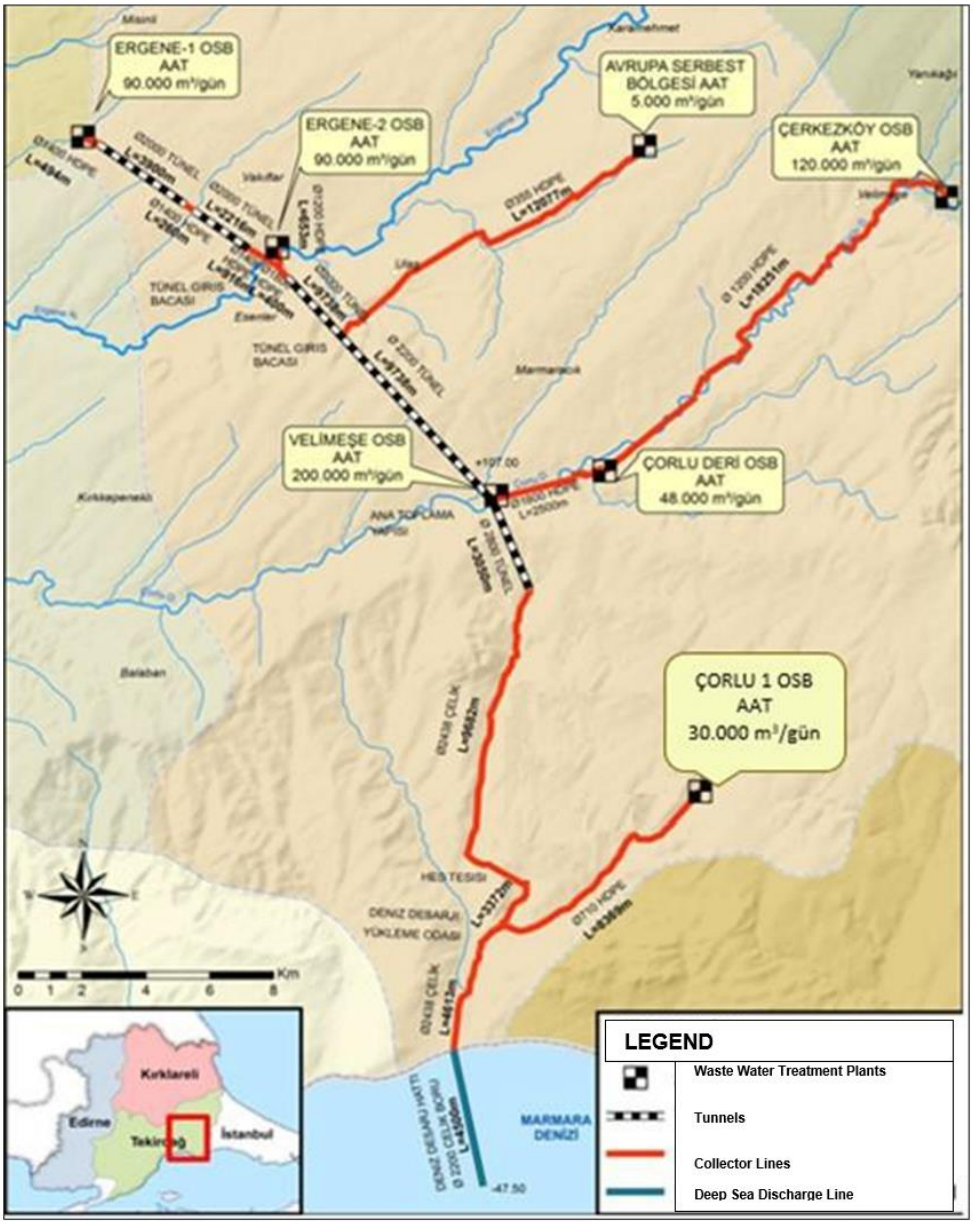


Figure 22 . Ergene Deep Sea Discharge System (AKÇA et al., 2022)

Unplanned industrialisation, population growth, domestic wastewater discharge and unconscious agricultural practices that threaten the soil in the Ergene Basin have severely degraded the quality of the surface and groundwater of the Ergene Basin and brought it to the point of loss (AKÇA et al., 2022).

Excessive rainfall can increase soil erosion. Heavy rainfall falling on the surface of the soil can cause soil particles to be washed away, and at the same time, floods can occur when the river beds rise and the water reaches high flow rates. This situation may also occur where there are agricultural lands or other open lands. Various pollutants in the soil can also be transported with the soil. These pollutants include fertilisers, phosphates and nitrogen compounds used in places such as agriculture and food processing plants. Overuse or misapplication can adversely affect soil quality and cause water pollution through wastewater.

It is an inevitable fact that burning of paddy lands in the basin creates soil pollution. This practice causes harmful effects on the environment and agriculture. Weed burning negatively affects the soil structure, reduces the amount of organic matter and thus reduces soil fertility. At the same time, it deteriorates soil health by affecting beneficial microorganisms and other soil organisms in the soil. Removal of vegetation can leave the soil surface vulnerable to erosion and lead to erosion by rainfall or wind. This, in turn, can reduce the capacity to hold water, causing rainfall to quickly seep into groundwater sources. Furthermore, grass burning may adversely affect air quality, releasing harmful particulate matter and gases into the atmosphere. Within the scope of Meriç-Ergene and Northern Marmara (Thrace Section) Basin Master Plan studies, groundwater samples were taken from 35 wells and analysed. Considering that salinity is a very important parameter in terms of irrigation water quality, when the electrical conductivity values (EC) measured as an indicator of salinity were analysed, it was determined that there were 11 wells with EC values greater than 750. In 3 of the wells, it is seen that the pH values measured in the field are greater than 8.5. Considering the Irrigation Water Quality Parameters Based on the Classification of Irrigation Waters, the waters of 35 wells analysed conform to good and usable water classes in terms of EC.

According to the criteria given in the Regulation on Water Intended for Human Consumption in force, it is seen that spring waters with an EC value of less than 2500 and a pH value between 6.5-9.5 can be drunk. Therefore, although these parameters are not a problem in terms of drinking water, other parameters be measured several times before use. On the other hand, the irrigated plant species and their sensitivity to salt should be taken into consideration during irrigation (DSİ, Meriç-Ergene Master Plan, 2018) .

In the Turkish part of the Evros River Basin, flooding and water shortage problems, water quality deterioration, ecosystem problems and socio-economic problems of the local population are increasing. Prevention or mitigation of these problems depends on the effective implementation of transboundary waters integrated basin management strategies under the joint coordination of Türkiye, Bulgaria and Greece.

Water quality assessment was carried out in order to reveal the pressure on the Meriç River in the Meriç-Ergene basin. For this purpose, water samples were collected from 21 stations in the basin. A total of 15 water quality parameters including temperature, dissolved oxygen, oxygen saturation, pH, conductivity, total dissolved solids, salinity, turbidity, nitrate, nitrite, phosphate, sulphate, fluoride, chemical oxygen demand and biological oxygen demand were determined in water samples. Information on the stations detected in water samples in the Ergene River Basin is given in Table 11 . The map containing the station locations is given in Figure 23 . Water quality parameter values measured at the station Table 12

Table 11 . Station Information*

Meric and Ergene Rivers		Side Arms	
Station	**Location**	**Station**	**Location**
E1	Kavacik	**T1** Safaalan Stream	Snowy
E2	Muratli	**T2** Çorlu Stream	Muratli
E3	Karamusul	**T3** Ahmetbey Stream	Ahmetbey
E4	Old Cedar	**T4** Koprubalti Stream	Lüleburgaz
E5	Oklali	**T5** Anadere Stream	Sinanli
E6	Pehlivankoy	**T6** Hayrabolu Stream	Karakavak
E7	Uzunköprü	**T7** Buyukdere Stream	Babeski
E8	Yenicegörece	**T8** Kuleli Stream	Kumkoy
E9	Adasarhanli	**T9** Main Stream	Gaze gaze
M1	Cube	**T10** Irrigation Channel	Kucukalagac
M2	Saricaali	-	-

Tokatlı, C. (2020, April). Evaluation of Ergene River Basin Water Quality Using Multivariate Statistical Analyses. *LimnoFish - Journal of Limnology and Freshwater Fisheries Research*, pp. 39-41.

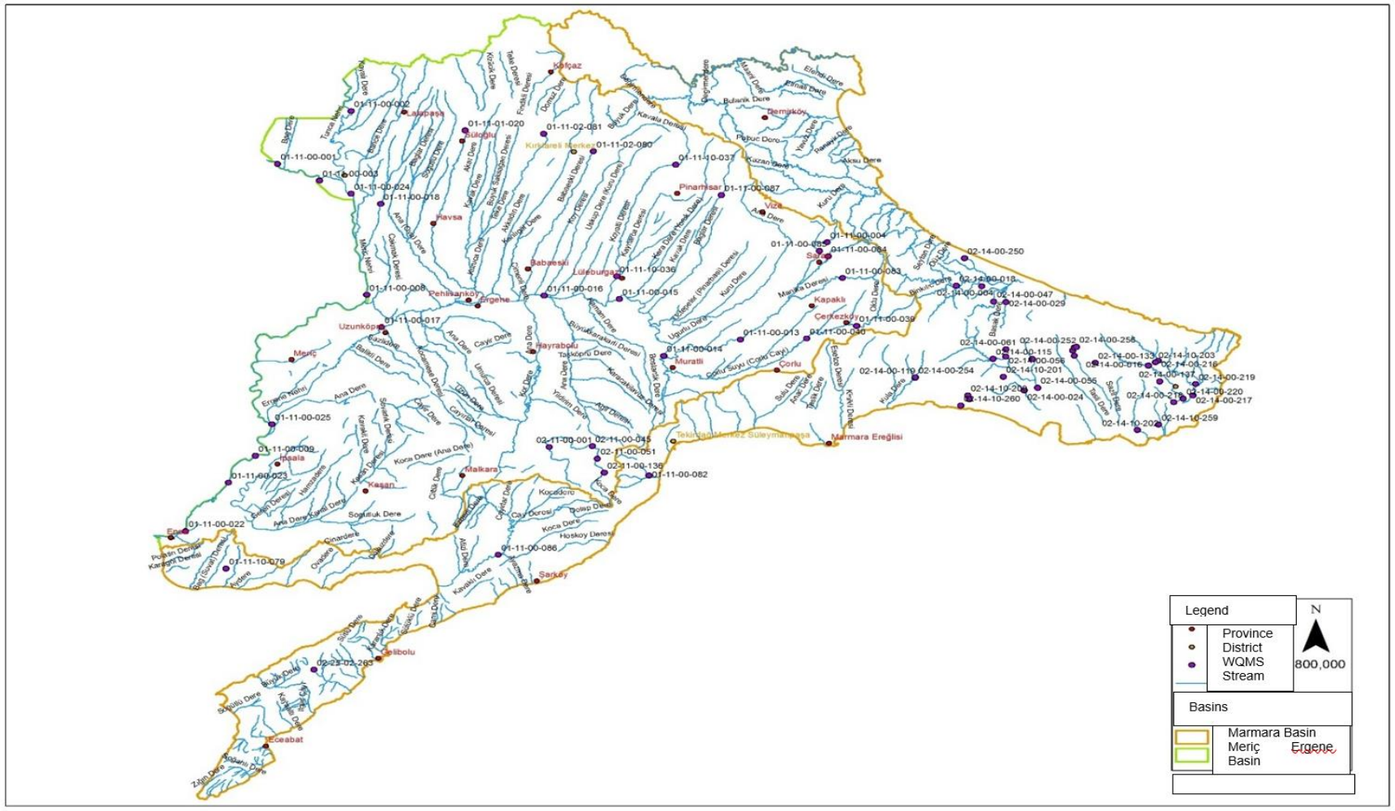


Figure 23 . Water Quality Monitoring Stations

Table 12 . Water Quality Parameters Detected in Meriç and Ergene Rivers *

Parameter		E1	E2	E3	E4	E5	E6	E7	E8	E9	M1	M2
Temperature	^0C	16,2	20,5	22,6	22,8	22,6	20,7	22,5	20,1	18,8	18,3	18,5
ÇO	mg/L	10,91	0,31	0,49	0,23	0,46	1,39	1,41	4,25	4,68	8,42	7,33
%O	%	115,9	3,4	5,7	2,7	5,4	15,6	16,3	46,4	49,7	88,8	81,3
pH	-	8,17	7,33	7,37	7,42	7,43	7,59	7,66	7,70	7,66	8,09	8,05
EC	µS/cm	150	1454	2054	2500	2074	1612	1723	810	804	347	431
TDS	mg/L	87	784	1092	1310	1066	885	908	445	446	189	239
Salinity	‰	0,09	0,79	1,10	1,33	1,08	0,89	0,91	0,44	0,45	0,19	0,24
Turbidity	NTU	4,31	31,90	26,70	27,30	19,30	12,20	6,36	15,90	10,00	9,24	13,80
Nitrate	mg/L	0,502	0,450	0,571	0,526	0,446	1,440	1,410	2,040	1,930	1,610	1,710
Nitrite	mg/L	0,010	0,054	0,078	0,070	0,053	0,112	0,146	0,132	0,106	0,020	0,033
Phosphate	mg/L	0,097	0,162	0,697	0,718	0,795	0,632	0,561	0,219	0,208	0,240	0,159
Sulphate	mg/L	16,9	107,0	178,0	166,0	160,0	130,0	113,0	73,7	72,9	68,7	68,2
Fluoride	mg/L	0,119	0,313	0,351	0,402	0,382	0,416	0,460	0,186	0,282	0,230	0,218
COD	mg/L	31,2	143,0	138,0	124,0	94,9	80,1	52,7	50,8	44,9	31,0	29,2
BOD	mg/L	2,9	18,0	32,0	25,0	15,0	13,0	8,6	12,0	11,0	10,0	7,9
FK	cfu/50mL	85	189	256	291	226	285	232	287	227	261	250

* Tokatlı, C. (2020, April). Evaluation of Ergene River Basin Water Quality Using Multivariate Statistical Analyses. *LimnoFish - Journal of Limnology and Freshwater Fisheries Research*, pp. 39-41.

Table 13 . Detected Water Quality Parameters Detected in Side Tributaries *

Parameter		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
Temperature	0C	21,4	20,2	20,3	21,8	22,7	21,5	25,6	20,3	23,1	20,4
CGU.	mg/L	11,43	0,77	12,15	8,75	11,23	11,97	8,98	8,29	6,77	7,24
%O	%	129,6	8,4	135,4	98,9	130,5	135,9	110,1	92,0	80,8	84,6
pH	-	8,21	7,74	8,06	7,66	7,87	8,13	8,05	7,75	7,80	7,90
EC	µS/cm	279	3750	601	756	871	865	846	856	808	742
TDS	mg/L	142	1940	324	396	446	457	407	462	412	400
Salinity	‰	0,14	1,98	0,32	0,39	0,45	0,46	0,41	0,46	0,41	0,40
Turbidity	NTU	11,00	62,20	7,07	3,38	3,12	2,84	5,80	4,13	6,01	20,40
Nitrate	mg/L	1,500	1,020	3,930	7,080	4,790	3,640	6,340	7,610	6,690	2,040
Nitrite	mg/L	0,046	0,124	0,146	0,134	0,039	0,057	0,071	0,065	0,450	0,042
Phosphate	mg/L	1,200	1,980	0,128	0,214	0,015	0,047	0,103	0,293	0,392	0,071
Sulphate	mg/L	35,8	225,0	62,9	92,9	92,0	107,0	51,0	64,3	67,6	98,9
Fluoride	mg/L	0,092	0,233	0,241	0,289	0,443	0,315	0,267	0,371	0,405	0,309
COD	mg/L	65,0	178,0	22,5	29,5	46,0	32,9	27,2	19,0	25,3	43,5
BOD	mg/L	9,9	51,0	4,3	6,7	8,2	8,6	17,0	9,4	10,0	9,8
FK	cfu/50mL	59	282	245	268	124	125	286	280	232	240

Parameter	***Description***
Temperature	*Indicates the heat of the water. Temperature affects the level of dissolved oxygen and the rate of biological processes.*
Dissolved Oxygen (DO)	*The amount of oxygen dissolved in water (mg/L). It is a critical indicator for aquatic life.*
Oxygen Saturation (%O)	*The percentage of dissolved oxygen in water relative to the maximum amount the water can hold at the given temperature and pressure.*
pH	*A scale (0–14) that indicates whether water is acidic or basic. A pH between 6.5 and 8.5 is generally considered acceptable in natural waters.*
EC (Electrical Conductivity)	*Measures the water's ability to conduct electricity due to dissolved ions (salts, minerals) (µS/cm). It is an indicator of water pollution.*
TDS (Total Dissolved Solids)	*The total amount of inorganic and organic substances dissolved in water (mg/L). It is related to EC.*
Salinity	*Refers to the total amount of salts present in water. Important for irrigation and drinking water quality.*
Turbidity	*The degree of visual cloudiness caused by suspended particles in water (NTU). It indicates pollution.*
Nitrate (NO_3^-)	*A form of nitrogen originating from agricultural fertilizers and sewage leakage. Harmful to health at high levels.*
Nitrite (NO_2^-)	*An intermediate oxidation product of nitrate. It is toxic and should be present at low levels in drinking water.*
Phosphate (PO_4^{3-})	*Commonly originates from detergents and fertilizers. High levels cause eutrophication (algal blooms).*
Sulfate (SO_4^{2-})	*Can originate from natural or industrial sources. High concentrations may cause taste and health issues.*
Fluoride (F^-)	*May occur naturally or result from human activities. Beneficial for dental health at appropriate levels; toxic at high doses.*
COD (Chemical Oxygen Demand)	*The amount of oxygen consumed by all oxidizable organic and inorganic substances in water via chemical processes. It is an indicator of wastewater pollution.*
FC (Fecal Coliform)	*Represents bacteria of fecal origin. Used to assess water hygiene and health risks.*

* Tokatlı, C. (2020, April). Evaluation of Ergene River Basin Water Quality Using Multivariate Statistical Analyses. *LimnoFish - Journal of Limnology and Freshwater Fisheries Research*, pp. 39-41.

Meriç-Ergene River Basin and Pollution Loads

The upstream part of the Meriç-Ergene River starts from the Bulgarian border and reaches the Saroz Bay in our country. The Meriç-Ergene Basin, which includes the Arda, Tunca and Ergene rivers, together with its sub-basin tributaries, forms an important river system in Türkiye. The total length of the Meriç-Ergene River in the Eastern Balkans is 550 km and the total catchment area is 53.000 km². Approximately 66 per cent of this area belongs to Bulgaria, 28 per cent to Türkiye and 6 per cent to Greece.

The quality of their waters is of great importance for irrigation, industrial activities, recreation and domestic use. The control and management of water basins is of common interest among neighbouring countries. The upstream part of the Evros River is located in the territory of Bulgaria and includes both many municipalities and many industrial elements, causing significant pollution. The industrial emitters along the Evros River are listed as follows:

- Production and processing of metals - 39%
- Chemical industry - 26 per cent,
- Wood and intensive livestock production - 13 per cent,
- Paper production and processing - 9%,
- Energy sector - 9 per cent,
- Mining industry - 4%.

These industrial activities adversely affect the quality of river water and cause problems in various areas for water utilisation. This situation reveals the need for effective protection and management of water resources.

Table 14. Description of Pollutant Sources along the Evros River Basin (Papazova & Simeonova, 2013)

No	Name and Condition of Sampling Location	Municipality	Impact Factors or Sources of Pollution
1	Evros River headwaters	Samokov	- No wastewater treatment plant (WWTP) - No serious pollution sources
2	Evros River Raduil Village (Hydro Meteorological Station)	Samokov	- No WWTP - Textile Industry - Production and Processing of Metals - Woodworking Industry
3	Evros River 3 km after the town of Kostenets	Kostenets	- No WWTP - Lack of Sewerage System / No Treatment and Sewerage Plant in Most of the Villages - Paper Industry - Food Industry - Paint Manufacturing - Manufacture of Rubber Products - Production and Processing of Metals - Match and Lighter Fireplace Manufacturing - Pollution from Agricultural Sources
4	Evros River in Belovo Town	Belovo	- No WWTP, Untreated Domestic Discharge and Industrial Wastewater is an Important Source of Water Pollution. - Paper Industry - Livestock breeding - Woodworking Industry - Textile Industry - Pollution from Agricultural Sources
5	Evros River in Kovachevo Village	Septemvri	- No WWTP, Wastewater is discharged to Maritsa, - Lack of Sewerage System - No Water Treatment and Sewerage Plant in Most of the Villages

No	Name and Condition of Sampling Location	Municipality	Impact Factors or Sources of Pollution
			- Food Industry - Woodworking Industry - Pollution from Agricultural Sources
6	Topolnitsa River Before joining the Evros River	1. Pazardjik 2. Pirdop 3. Mirkovo 4. Chelopech 5. Panagurishte	- No WWTP - Lack of Sewerage System - No Water Treatment and Sewerage Plant in Most of the Villages - The main production area is located on the south bank of Meriç. - Food Industry - Chemical Industry
7	The Evros River in the town of Pazardjik, under the Sofia-Plovdiv bridge	Pazardjik	- Leather, Textile Industry - Rubber Industry - Manufacture of Batteries - Milk Industry
8	The Evros River before the inclusion of the Luda Yana River below the town of Pazardzhik	Pazardjik	- Plant for the production of copper cathodes and zinc sulphate - Factory for the production of anode and cathode copper and technical sulphuric acid - Extraction and processing of copper and gold-bearing ores - Beneficiation plant to produce copper concentrate
9	Evros River in the town of Stamboliyski	Stamboliiski	- No WWTP - Lack of sewerage system - most of the villages do not have water treatment and sewerage facilities - Food industry - Paper industry - Pollution from agricultural sources
10	Evros River at the bridge of Polatovo village under Stamboliyski	1. Stamboliis 2. Rodopi 3. Peshtera 4. Krichim - river Vucha 5. Bratsigovo - River Stara	- No WWTP - 1. Paper industry - Food industry - 2.Poultry meat production and processing - Cattle farm - Wine production - Canned food factory - 3. Plant for the production of food additives - Medicines, pharmaceutical products and active substances - 4. Food industry - Textile industry - Pollution from agricultural sources - 5. Clothing industry - Woodworking industry - Food and beverage industry - Pollution from agricultural sources
11	Evros river in Plovdiv (HMS)	Plovdiv	- Wastewater from the south of the Evros River via a collector system
12	Evros River below the Plovdiv tower - 1 km.	Plovdiv	- The treatment plant is not completed. The wastewater in the north of the Evros River is discharged into the river without treatment. - Chemical industry - Textile and clothing sector - Leather and fur industry - Shoe production - Food industry
13	Chepelarska River, before the Maritsa River	1. Asenovgrad 2. Kuklen	- No WWTP - Asenovgrad has only a complete sewerage system. Water treatment and sewerage facilities in all other locations - 1. Production, formulation and packaging of plant protection products from the dithiocarbamate group and wettable copper-containing powders: - 2. Production of lead and alloys

No	Name and Condition of Sampling Location	Municipality	Impact Factors or Sources of Pollution
			- Production and processing of precious metals and their alloys - Sulfuric acid production plant - Plant for the production of zinc and alloys
14	Stryama river before flowing into the Evros River in the village of Manole	Meric	- No WWTP - Untreated partial sewage discharged to surface waters - Discharge of domestic and industrial wastewater not included in the sewerage network directly to the soil - Pollution from agricultural sources
15	Evros River - Popovitsa village	1. Sadovo 2. Rakovski	- The sewerage network is discharged into the rivers Cherkezitsa and Chepelarska, which flow into the Evros. Lack of treatment facilities. - Farming in settlements without sewerage network - Illegal dumpsites - 1. production of plastic products - Alcohol production; - Meat processing industry - Poultry meat production and processing - 2. Pig farm
16	Evros River 3 km after the emptying of the chemical factory channel	1. Dimitrovgrad 2. Haskovo	- No WWTP - Dimitrovgrad's domestic and industrial wastewater is discharged untreated into the Evros River - There is no sewerage system in most of the villages. - 1. Combustion plants for electricity and heat generation, - Cement clinker installation - Plants for ammonium nitrate, nitrite, nitrate salts, nitric acid, etc. - 2. Electroplating production - Beer production - Pollution from agricultural sources
17	Sazliika river before joining the Evros River	1. Stara Zagora 2. Radnevo 3. Galabovo 4. Simeonovgrad	- 1.Suspension polymethylmethacrylate production. - Pollution from agricultural sources - 2. Iron and steel and acetylene plant. - Pollution from agricultural sources - 3. Combustion plants for electricity generation, steam and briquette production for drying coal for own consumption, hot water - Thermal power plant - No WWTP
18	After the Evros River joins the Sazliika River	Simeonovgrad	- No wastewater treatment plant - In most places there is no sewerage system and wastewater is discharged directly into surface waters, especially into the Evros River. - Simeonovgrad is the largest source of wastewater - industrial and domestic. - River valleys and floodplains passing through settlements are often used for illegal storage.
19	Evros River after the town of Harmanli	Harmanli	- No WWTP - Only Harmanli has a sewerage system, and many villages do not have sewerage. - Agriculture/incl. crops and livestock/ - Food industry - Electricity industry - Oil industry - Textile and clothing sector - Ceramic Industry - Illegal dumpsites

No	Name and Condition of Sampling Location	Municipality	Impact Factors or Sources of Pollution
20	Evros River in the town of Svilengrad	Svilengrad	- No WWTP, wastewater is discharged without treatment - Only Svilengrad has a sewerage system and many villages have no sewerage - Illegal dumpsites - Food industry - Textile and clothing enterprises
21	Evros River below the town of Svilengrad	Svilengrad	- Factory brass fittings

Analysis of Transboundary Pollution Loads

The Maritsa River is known as “Maritsa” in Bulgaria, “Evros” in Greece, and “Meriç” in Turkey. It is a significant transboundary water resource connecting three countries and forms a large portion of the land border between Turkey and the European Union (EU). Therefore, it holds strategic importance both environmentally and politically.

One of the most prominent issues in the Maritsa River Basin is pollution pressure, which relates more to water quality than quantity. Since a large portion of the basin lies within Bulgaria, the country’s agricultural, domestic, and industrial activities exert the greatest pressure on the basin.

Table 15. Distribution of the Basin by Country

Country	Sub-Basin	Basin Share (%)
Bulgaria	Maritsa, Arda, Tundzha	65%
Greece	Maritsa-Arda	7%
Turkey	Maritsa-Ergene	28%

As shown in the table above, approximately 65% of the Maritsa River lies within Bulgaria’s borders. This highlights the significance of pollution pressures originating from Bulgaria, primarily from agricultural fertilizer use, domestic wastewater, and mining activities.

Greece's influence on the basin is more limited. Pollution pressures in the Greek part of the basin mainly stem from agricultural activities and sewage systems. However, lack of data sharing and military restrictions hinder detailed transparency regarding water quality on the Bulgarian side.

The table below presents the main pollution pressures across the basin by country. These pressures are evaluated based on data from the River Basin Management Plans (RBMPs) prepared for Bulgaria and Greece. These plans are renewed every five years, and the 3rd Cycle River Basin Management Plans (2028–2033) are currently being prepared. The following tables are derived from the 2nd Cycle RBMPs (2022–2027). However, due to difficulties in direct access to these plans (data-sharing issues and military restrictions), academic studies were also utilized.

Table 16. Main Pollution Pressures by Country

Country	Main Pollution Sources	Notes
Bulgaria	Agriculture, Mining, Domestic Wastewater	66% of the basin is affected; high nitrogen and phosphorus pressures
Greece	Agriculture, Sewage	Limited impact; pollution is mostly agriculture-based
Turkey	Industrial Waste, Domestic Wastewater, Agriculture	Ergene Basin is the main source of internal pressure

The results of studies on pollution loads by country are presented in the tables below.

Table 17. Bulgaria – Maritsa River Basin

Parameter	Pollution Load (tons/year)	Main Sources
BOD_5	6,500	Domestic wastewater, agricultural runoff
NH_4	850	Agriculture, urban drainage
PO_4	450	Fertilizers, domestic waste

Table 18. Greece – Evros River Basin

Parameter	Pollution Load (tons/year)	Main Sources
BOD_5	950	Agricultural drainage, minor domestic waste
NH_4	170	Mainly agricultural, minor urban
PO_4	90	Agricultural fertilizer use

BOD_5 (Biochemical Oxygen Demand – 5 Days): *Indicates the amount of oxygen consumed by microorganisms to break down organic matter in water. It is measured in mg/L or tons/year. High BOD_5 values suggest a high level of organic pollution and potentially poor water quality.*

NH_4 (Ammonium Nitrogen): *Refers to nitrogen in the form of ammonium found in water. It typically originates from agricultural fertilizers, domestic wastewater, and urban drainage. At high concentrations, ammonium is toxic to aquatic life and increases the risk of eutrophication.*

PO_4 (Orthophosphate): *The soluble form of phosphorus in water. It enters water bodies from agricultural fertilizers, domestic, and industrial wastewater. Phosphate promotes algal blooms, thereby degrading water quality and disturbing ecosystem balance.*

3.1.4. Protected Areas and Ecosystems

The World Union for Conservation of Nature (IUCN), one of the most influential organisations in the world on the concept of protected area, has developed an agreed global definition to eliminate confusion.

Protected area according to the IUCN 1994 definition: Terrestrial and/or marine areas, which are managed by legal or other effective means, and which serve in particular to ensure the continuity and conservation of biological diversity, natural and related cultural resources.

Protected area according to the IUCN definition updated in 2008: Areas with clearly defined geographical boundaries, recognised, dedicated and managed by legal or other effective

means for the long-term conservation of nature and associated ecosystem services and cultural values.

Studies and conservation experiences around the world show that protected areas have many economic, ecological, cultural and social benefits.

1- They are safe havens for plant and animal species whose habitats are under threat. 80% of the species on the IUCN red list are in protected areas.

2- They protect and support habitats that are home to many main food sources (plants, fish and medicinal plants).

3- They contribute to the protection of cultural, architectural and traditional life.

4- It is a source of drinking water. Recent studies show that 33 of the world's 105 major cities (New York, Beijing, Los Angeles, Istanbul, etc.) obtain their drinking water from protected areas. In Peru, about 2.7 million people use water from 16 protected areas. The annual value of this is US$ 81 million. The value of water management/balancing services provided by grasslands in New Zealand's Te Papanul Conservation Park (22,000 ha) is estimated at US$95 million.

5- It is one of the most important tools in combating poverty by providing economic support and job opportunities. In recent years, protected areas have become an important tool in the fight against poverty by providing economic opportunities in many different sectors to local people living in and around protected areas. For example, the Maya Biosphere Reserve in Guatemala has an annual income of 47 million US dollars and provides employment opportunities for 7,000 people. In Türkiye, field guiding in national parks is a good example.

6- They reduce the effects of natural disasters by creating barriers and buffer zones against storms, floods and droughts.

7- They are exemplary places where the most successful examples of sustainable development are implemented.

8- They present the best management models and examples with a participatory decision-making and management approach.

9- Places that offer opportunities for recreation. Protected areas offer you many possibilities to be alone with nature or to do sports.

10- They are important tools for conflict resolution. Especially conflicts from the past have been forgotten for the management of many protected areas. Cross-border protected areas, parks for peace, etc.

Our country has a rich biological diversity as it is a bridge and crossroads in terms of biological diversity as well as in terms of historical and social aspects, being the intersection of three of the 37 different plant geography regions on earth (Europe-Siberia, Mediterranean and Iran-Turan). In addition, three of the 34 biodiversity-rich hotspots (Caucasus, Mediterranean, Iran-Anatolia) that need urgent protection in the world are located in Türkiye. With this feature, Türkiye, together with China and South Africa, is one of the three countries with three hotspots within its borders and is one of the most important countries in terms of biological diversity in its belt with its endemic species.

The biodiversity values hosted by our country are protected by different protected area statuses and different laws. Some of these protection statuses are established according to national legislation and some are based on international conventions.

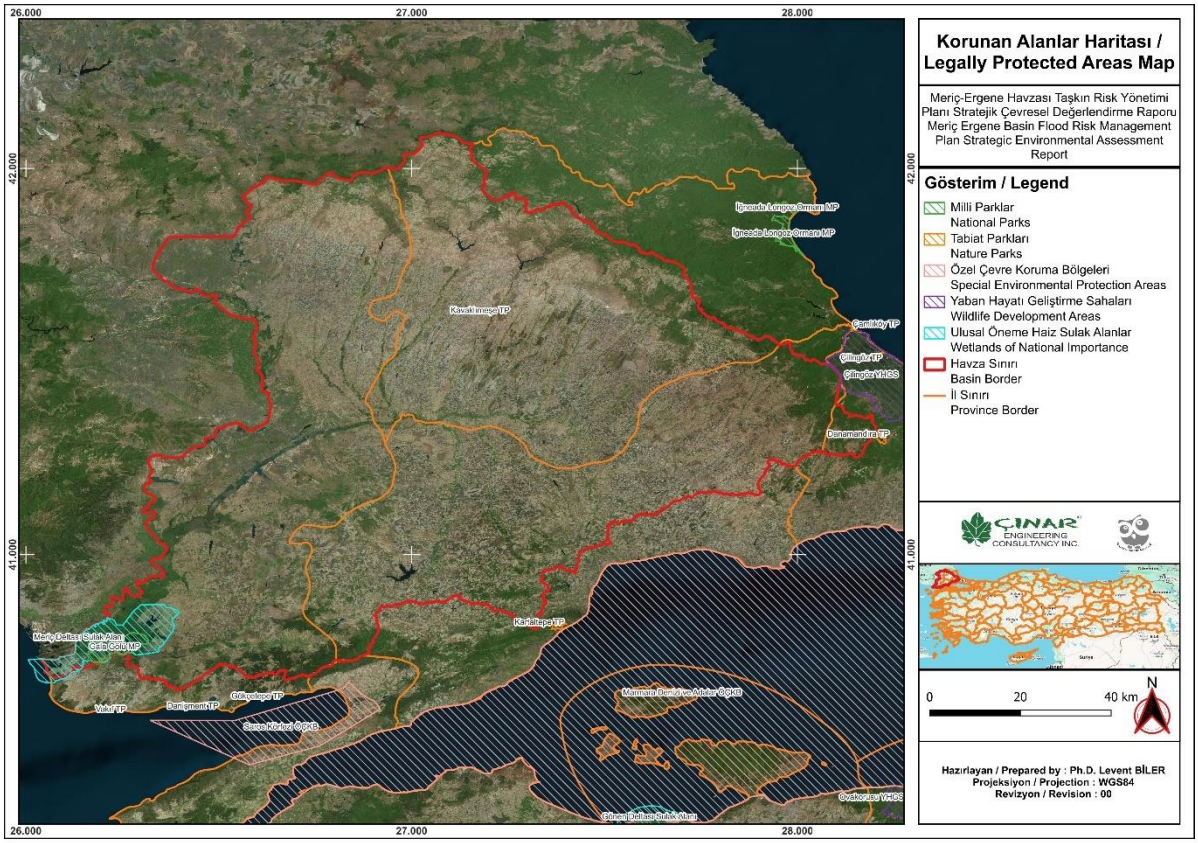
According to the news bulletin (https://www.tarimorman.gov.tr/DKMP/Belgeler/dkmp/resmiistatistikler/korunanalanistatistikleri

/2018/haberb%C3%BClteni2018_ver1-1.pdf) titled Protected Area Statistics, 2018 (Issue: 6 Date: 28.06.2019) of the Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks, the number of protected areas is 1,599 and the size of the protected area is 3,384,717 ha.

In our country, the ecologically protected areas under the authority of the Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks are National Parks (MP), Nature Conservation Areas (NCA), Wildlife Development Areas (WLCA), Nature Parks (TP), Ramsar Sites (RA) and Wetlands (SA).

In our country, ecologically protected areas are Special Environmental Protection Zones (SEPZs) under the legal legislation under the responsibility of the Ministry of Environment, Urbanisation and Climate Change.

The Meriç-Ergene Basin is one of the most important water basins in Türkiye and is home to a variety of ecosystems. Nature conservation areas usually include national parks, nature parks, biosphere reserves, wetlands or areas with other special protection status. The most up-to-date information on nature conservation areas in Türkiye is provided by the Turkish Ministry of Environment and Urbanisation, General Directorate of Nature Conservation and National Parks and relevant local governments, nature conservation organisations and other relevant organisations. The protected areas in the Meriç-Ergene Basin are shown in the followingFigure 24 .



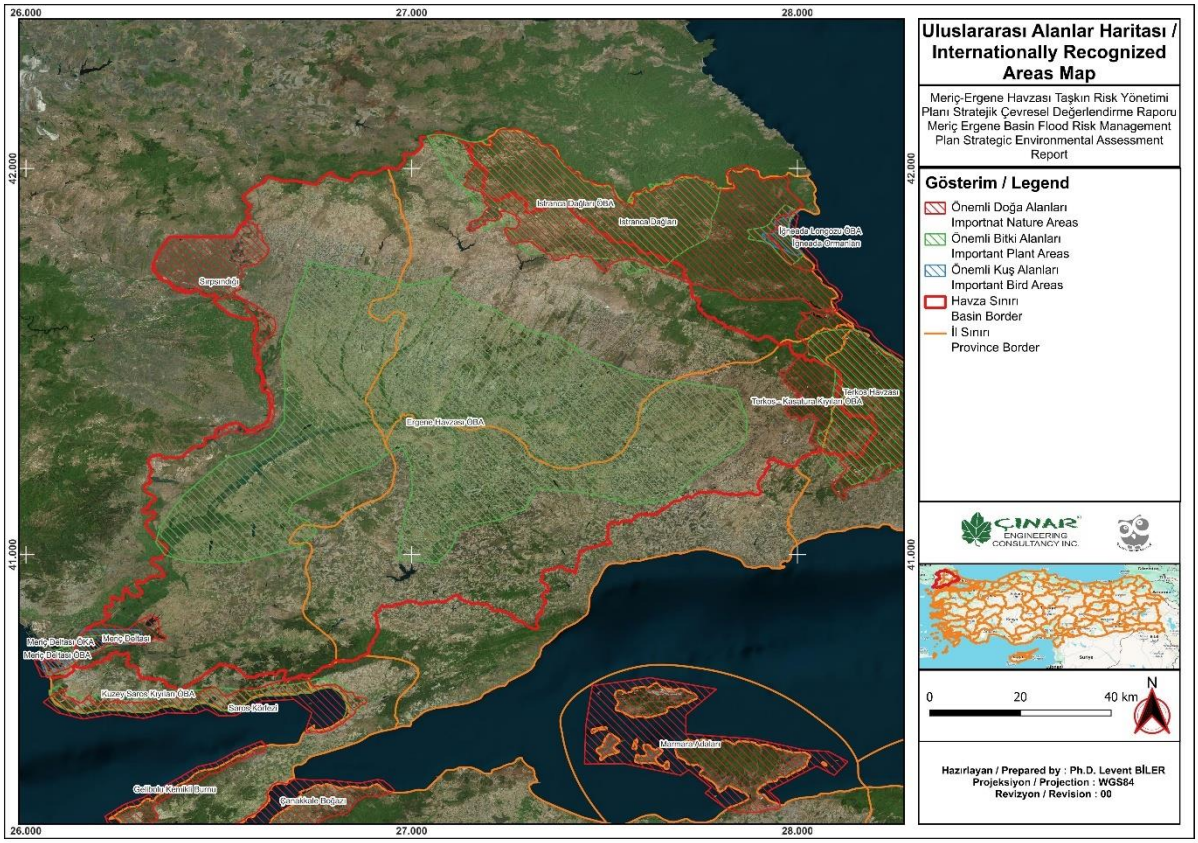


Figure 24 . Protected Areas in the Meriç-Ergene Basin

Meric Delta Wetland

The Meriç Delta Wetland located in the province of Edirne, where Lake Gala National Park is located, was registered as a "Wetland of National Importance" with the Ministry's Authority Approval dated 19.03.2020 and numbered 73534 in accordance with the provision in paragraph 2 of Article 109 of the Presidential Decree No. 1.

The Meriç Delta Wetland, an international Class A wetland with three of the Ramsar Criteria (Criteria 4, 5 and 6), which is included in the lists of Türkiye's Important Nature Areas, Important Bird Areas and Important Plant Areas, is 29,046 ha in size.

Lake Gala

Lake Gala National Park is located in the centre of Ipsala and Enez districts of Türkiye. This region is located in the area where the Meriç River flows into the Aegean Sea. Lake Gala was formed as a result of the overflow of the Evros River, especially during periods of heavy rainfall, up to the skirts of Hisarlı and Çandır Mountains and the accumulation of alluvium.

Lake Gala consists of two parts, the Great Lake Gala (Paddy Lake) and the Small Lake Gala. The surface area of Lake Gala varies depending on meteorological conditions and the water withdrawn from the lake for paddy irrigation is left in the fields at the end of the harvest. This lake and its surroundings are under a certain protection according to the Lake Gala Water Resources Management Plan. These rivers tend to dry up shortly after rainfall and do not show a continuous flow.

The wetlands within the Lake Gala National Park interact with water resources in the region such as the Meriç River, Hamzadere Dam, Yeni karpuzlu Pond, Enez Lagoons and State Hydraulic Works (DSİ) canals. These water sources feed the Lake Gala ecosystem and influence the formation of the surrounding wetlands. According to the Lake Gala Flora Fauna Final Report of 2016, the ecosystem interacts with various wetlands and water resources.

Kavaklımeşe Grove Nature Park

Kavaklımeşe Grove Nature Park is located within the borders of Kavaklı Town of Kırklareli Central District. The Nature Park has an area of 35.55 hectares. In 2011, it was declared as a Natural Park. There are generally old oak trees. Squirrel species such as Sciurus vulgaris and Spermophilus citellus and bird species such as Garrulus glandarius, Pica pica, Pyrrhocorax graculus, Corvus monedula, Corvus frugilegus, Corvus corone pallescens, Corvus corax, Sturnus vulgaris, Passer domesticus are commonly observed in the area (General Directorate of Nature Conservation and National Parks, 2016).

Istanbul Catalca Locksmith

It is observed that Çilingöz Nature Park covers an area of 0.51 km^2 within the basin. Although this area is relatively small considering the size of the basin, Çatalca Çilingöz Nature Park is also included in the report since special importance should be given to protected areas.

Çilingoz Nature Park is a nature park located in Çatalca district of Istanbul. Established in 2011, the park covers an area of 1,775 hectares and was declared a wildlife protection area in 2005 due to its rich flora and fauna. The park consists of beach, forest, lake and reeds. There is a fine sandy beach in the northern part. Çilingoz Creek flows towards the Black Sea and is surrounded by reeds, forming a large lake. Hunting is permanently banned in the area.

This nature park is home to a variety of vegetation. Plants such as Eastern beech, Eastern redwood, European hornbeam and Turkish oak are predominant in the forested area. Among the shrubs, species such as common rhododendron, rabbitbrush, myrtle, Mediterranean laurel, heather, big nuts, blackberries and long-grass are observed. In sandy areas, there are plants such as eryngium campestre, havacıva and golden-flowered Onosma.

In terms of fauna, the nature park harbours various bird species. While birds such as quail, cormorant, Eurasian snipe, hawk, puhu, woodpecker, blackbird, stork, magpie, magpie, saka and passer are observed, deer, roe deer, fox, wood marten, wolf, jackal, squirrel, hedgehog, hare, mole and turtle are among the mammals. Fish species such as red mullet, horse mackerel, mullet, bonito and stingray live in the coastal waters, while fish such as trout, carp, white fish and eel are seen in fresh waters.

3.1.5. Biodiversity and Habitat

Habitat

As a result of the evaluation, when the project area and its immediate surroundings are taken into consideration, a terrestrial ecosystem type is observed. The European Nature Information System (EUNIS) Habitat Classification was used to classify the habitat types within the terrestrial ecosystem.

The European Nature Information System (EUNIS) is a common habitat classification system established at the European Union scale to make efficient and regular use of natural resources, to identify existing resources and to establish databases. The aim of this system is to define European habitat types according to a standardised terminology that allows a broader analysis of habitats in relation to ecoregions, climate, soil and environmental pressures, and enables comparison of data with other countries. For EUNIS, a habitat is the place where plants or animals naturally live and is defined firstly by its physical characteristics (topography, plant or animal physiognomy, soil characteristics, climate and water quality, etc.) and secondly by the species living there. The EUNIS Habitat Classification is a common language of habitat types at the European scale, supported by the European Environment Agency (EEA). EUNIS is a combination of several habitat classifications (marine, terrestrial and freshwater).

In Tekirdağ Province, 7 main macro ecosystems and 33 different EUNIS habitat types were recorded.

Biodiversity

The identification of terrestrial plant and animal taxa of the project area is based on a detailed literature study on the floristic and ecological structure of the region. The "National Biodiversity Database - Noah's Ark" prepared by the Ministry of Agriculture and Forestry was also used.

According to the National Biodiversity Database, 732 vascular plants, 182 birds, 51 mammals, 26 inland fish, 24 reptiles and 9 bivalves were identified in Edirne province (seeFigure 25

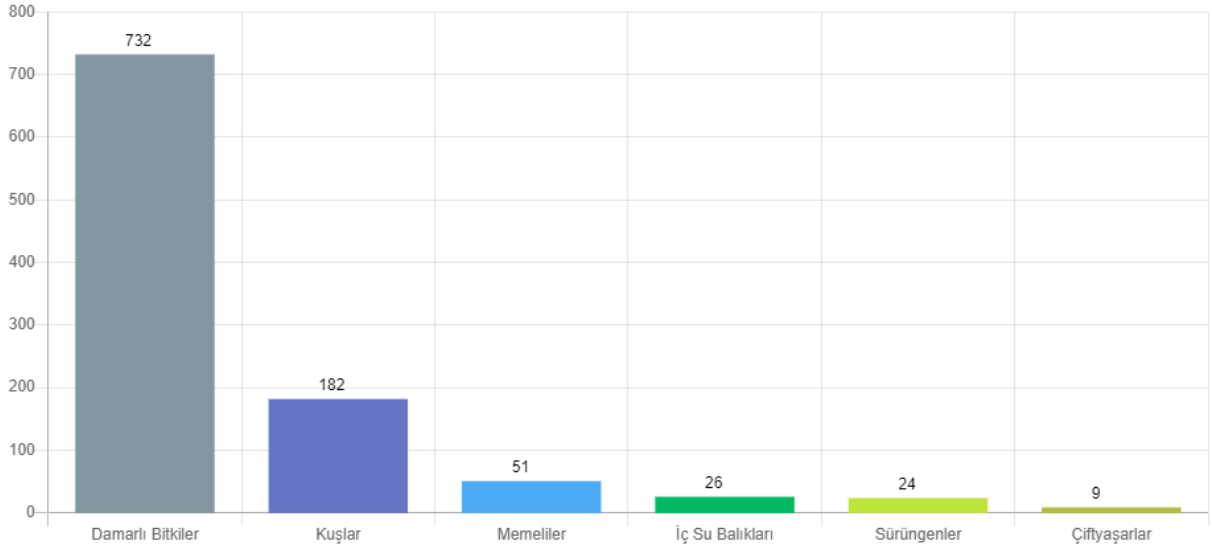


Figure 25 . Number of taxa by living group in Edirne province

According to the National Biodiversity Database, 892 vascular plants, 171 birds, 67 mammals, 42 inland fish, 27 reptiles and 10 bivalves were identified in Kırklareli province (seeFigure 26.

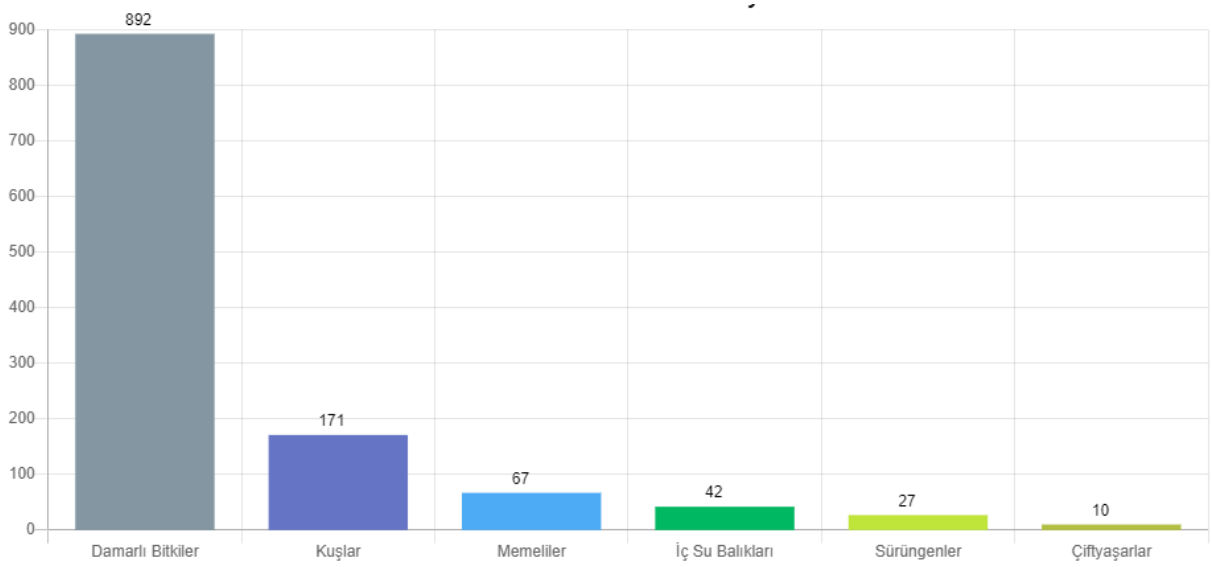


Figure 26 . Number of taxa by living group in Kırklareli province

According to the National Biodiversity Database, 1046 vascular plants, 335 birds, 61 mammals, 26 inland fish, 31 reptiles and 9 bivalves were identified in Tekirdağ province (seeFigure 27

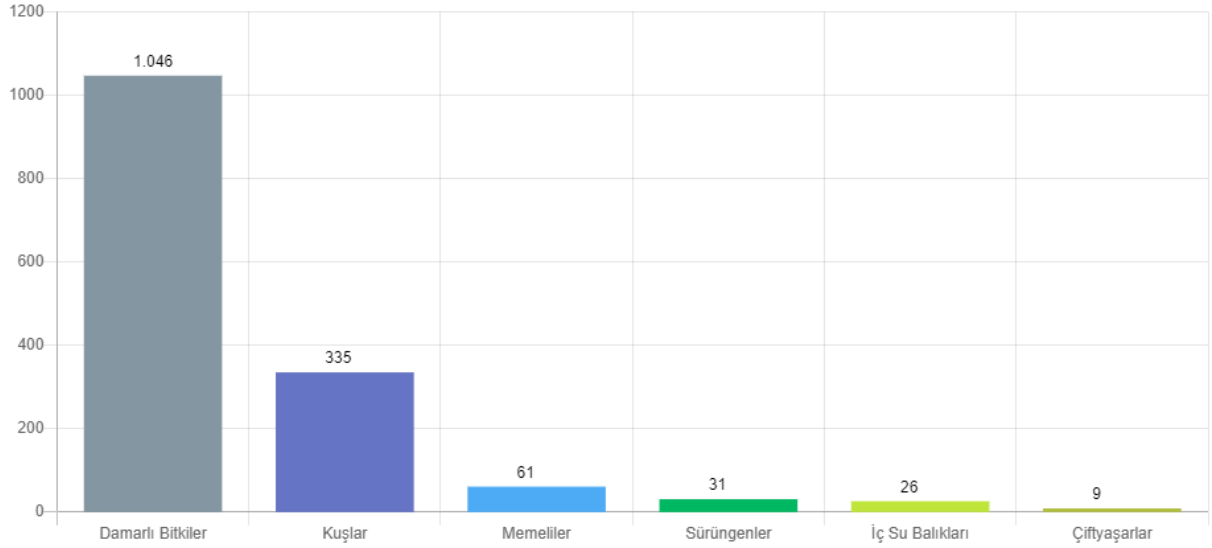


Figure 27 . Number of taxa by living group in Tekirdağ province

According to the IUCN classification of the species in Edirne province, 356 species were evaluated as LC, 17 species as NT, 12 species as VU, 10 species as DD, 4 species as EN and 1 species as CR (seeFigure 28

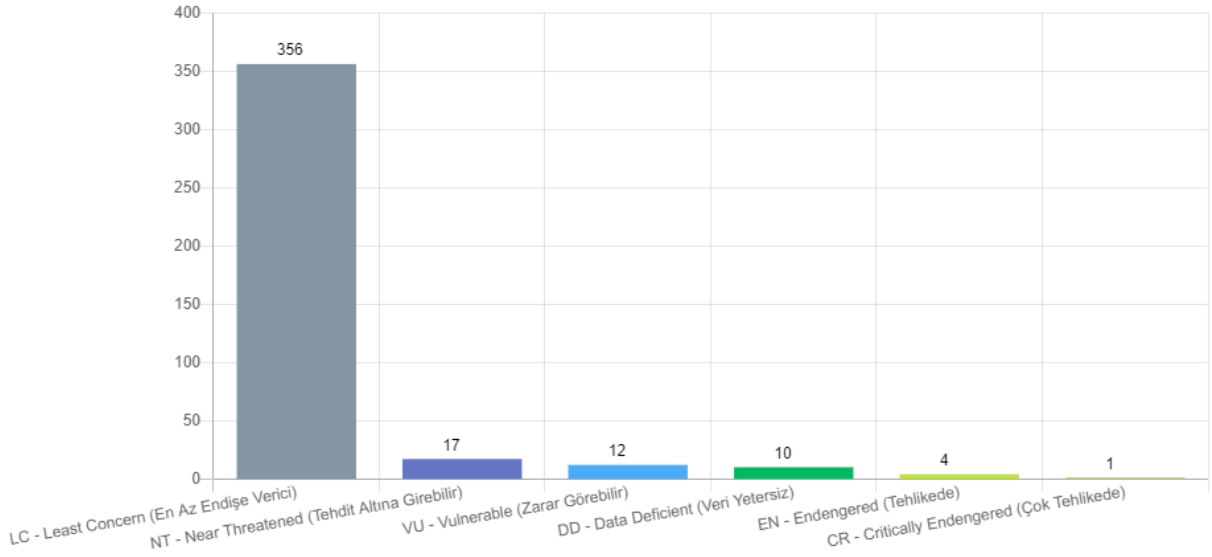


Figure 28 . Number of taxa in Edirne province according to IUCN Criteria

According to the IUCN classification of the species in Kırklareli province, 417 species were evaluated as LC, 14 species as NT, 13 species as VU, 13 species as DD, 2 species as EN and 2 species as CR (seeFigure 29

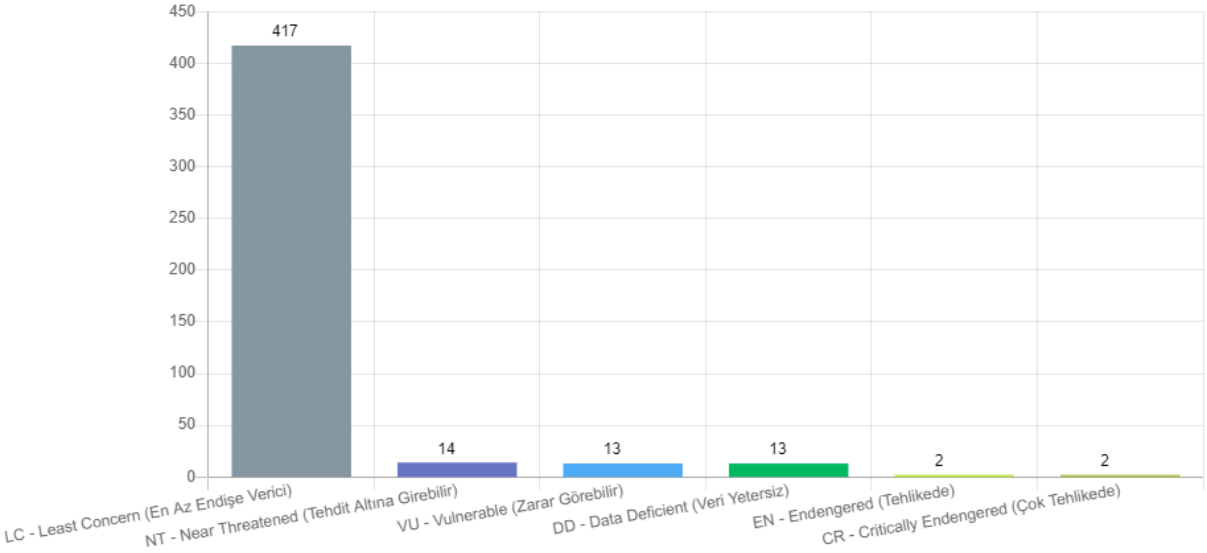


Figure 29 .Number of taxa according to IUCN Criteria in Kırklareli province

According to the IUCN classification of the species in Tekirdağ province, 559 species are considered LC, 23 species NT, 21 species VU, 12 species DD, 9 species EN and 1 species CR (seeFigure 30

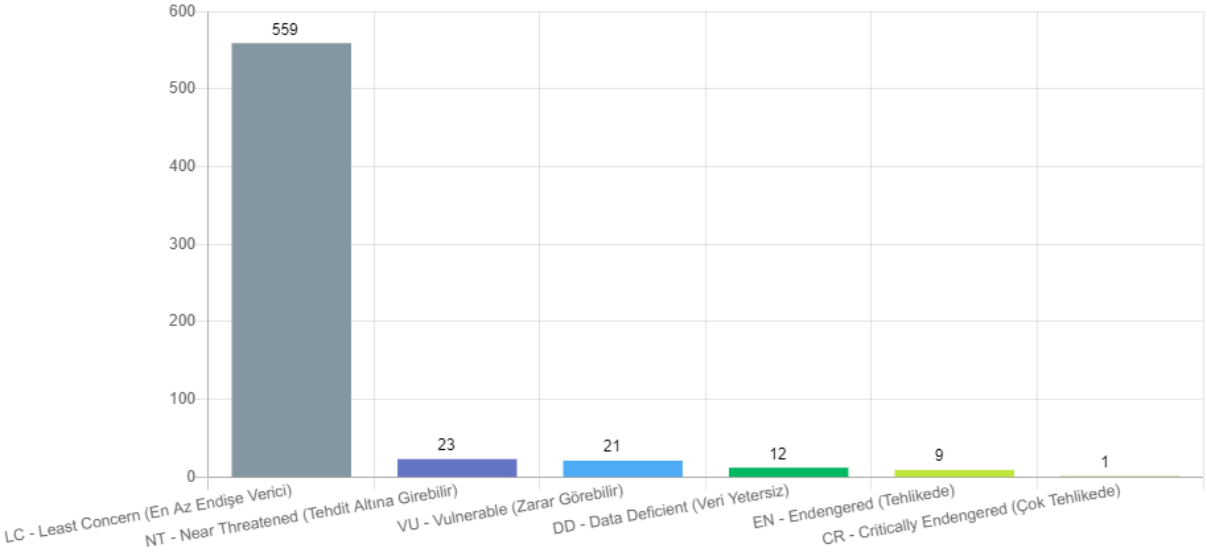


Figure 30 .Number of taxa according to IUCN Criteria in Tekirdağ province

Flora

As a result of the studies carried out in Edirne province, 15 endemic plant species were identified. In addition, there are 1 EN, 1 VU and 4 NT plant species according to IUCN (seeTable 19

Table 19 . Endemic and Highly Protected Flora Species Identified in Edirne Province

Type	Endemism	IUCN
Ailanthus altissima - Kokarağaç	Not Endemic	EN - Endangered
Linaria odora - Stinking Nowadays	Not Endemic	NT - Near Threatened
Medicago falcata - Card Clover	Not Endemic	VU - Vulnerable
Vicia barbazitae - Snake Vetch	Not Endemic	NT - Near Threatened
Vicia sativa subsp. *amphicarpa* - akfiğ	Not Endemic	NT - Near Threatened
Pistacia vera - Pistachio	Not Endemic	NT - Near Threatened
Dianthus ingoldbyi - Martyr's Carnation	Endemic	
Dianthus lydus - Blood Carnation	Endemic	
Taraxacum turcicum - Agcakavağı	Endemic	
Trifolium elongatum - Halva Triangle	Endemic	
Trifolium pachycalyx - Istanbul Triangle	Endemic	DD - Data Deficient
Euphorbia amygdaloides subsp. *robbiae* - has zerana	Endemic	
Taraxacum aznavourii - Has Chicory	Endemic	
Centaurea polyclada - Seven-legged	Endemic	
Linum tauricum - Throat Flax	Endemic	
Rorippa aurea - flatfoot	Endemic	
Tripleurospermum hygrophilum - Water Daisy	Endemic	
Tripleurospermum baytopianum - Sultan Daisy	Endemic	
Galanthus plicatus subsp. *byzantinus* - istanbul snowdrop	Endemic	
Melilotus bicolor - Pansy Clover	Endemic	
Myosotis uncata - Short Eyelet	Endemic	

Ailanthus altissima - Kokarağaç

Medicago falcata - Card Clover

Figure 31. Flora Sample Identified in Edirne Province

As a result of the studies carried out in Kırklareli province, 25 endemic plant species were identified. In addition, there are 2 plant species in CR, 2 VU and 2 NT categories according to IUCN (seeTable 20

Table 20 . Endemic and Highly Protected Flora Species Identified in Kırklareli Province

Type	Endemism	IUCN
Linaria odora - Stinking Nowadays	Not Endemic	NT - Near Threatened
Onosma nigricaulis - Black squirrel	Endemic	CR - Critically Endangered
Delphinium fissum - Özge Hezaren	Not Endemic	CR - Critically Endangered
Medicago falcata - Card Clover	Not Endemic	VU - Vulnerable
Vicia barbazitae - Snake Vetch	Not Endemic	NT - Near Threatened
Platanus orientalis - Sycamore	Not Endemic	VU - Vulnerable
Symphytum pseudobulbosum - Lying Trellis	Endemic	
Tragopogon aureus - Yellow Manger	Endemic	
Crocus pestalozzae - umraniye crocus	Endemic	
Crocus bifloriformis - crocus bifloriformis	Endemic	
Allium rumelicum - oak curry	Endemic	
Verbascum degenii - coast mullein	Endemic	
Dianthus lydus - Blood Carnation	Endemic	
Dactylorhiza saccifera subsp. *saccifera* - marsupial salep	Endemic	
Taraxacum pseudobrachyglossum - Roriço	Endemic	
Taraxacum turcicum - Agcakavağı	Endemic	
Trifolium elongatum - Halva Triangle	Endemic	
Galium radulifolium - Misty Yoghurtwort	Endemic	
Onosma nigricaulis - Black squirrel	Endemic	CR - Critically Endangered
Astragalus angustifolius subsp. *longidens* - abdominal cereal	Endemic	
Anthyllis vulneraria subsp. *variegata* - playful rhododendron	Endemic	
Centaurea kilaea - Kilyos Button	Endemic	
Centaurea hermannii - Kulindor	Endemic	DD - Data Deficient
Asperula littoralis - Sand Belumot	Endemic	
Erysimum sorgerae - nightshade	Endemic	
Cirsium baytopae - Elegant Kangal	Endemic	
Anchusa leptophylla subsp. *incana* - toklubaşı	Endemic	
Isatis arenaria - butterfly weed	Endemic	
Ferulago thirkeana - Yellowbrush	Endemic	
Crepis macropus - White Shorty	Endemic	
Jurinea alpigena - Headed Birdbird	Endemic	

Onosma nigricaulis - Black squirrel

Linaria odora - Stinking

Figure 32. Flora Sample Identified in Kırklareli Province

As a result of the studies carried out in Tekirdağ province, 19 endemic plant species were identified. In addition, according to IUCN, there are 2 VU and 2 EN plant species (Table 21

Table 21 . Endemic and Highly Protected Flora Species Identified in Tekirdağ Province

Type	Endemism	IUCN
Ailanthus altissima - Kokarağaç	Not Endemic	EN - Endangered
Albizia julibrissin - Marjoram	Not Endemic	VU - Vulnerable
Platanus orientalis - Sycamore	Not Endemic	VU - Vulnerable
Beta macrocarpa - Chukundur	Not Endemic	EN - Endangered
Allium proponticum - ball currymen	Endemic	
Achillea multifida - Ebülmülük	Endemic	
Crocus pestalozzae - umraniye crocus	Endemic	
Taraxacum turcicum - Agcakavag	Endemic	
Taraxacum pseudobrachyglossum - Roriço	Endemic	
Onosma propontica - Sand Teat	Endemic	DD - Data Deficient
Centaurea kilaea - Kilyos Button	Endemic	
Centaurea hermannii - Kulindor	Endemic	DD - Data Deficient
Asperula littoralis - Sand Belumot	Endemic	
Aegilops geniculata - conch	Endemic	
Cirsium baytopae - Elegant Kangal	Endemic	
Tripleurospermum hygrophilum - Water Daisy	Endemic	
Tripleurospermum baytopianum - Sultan Daisy	Endemic	
Ferulago humilis - Bristletail	Endemic	
Ferulago macrosciadia - Cat Coriander	Endemic	
Acer hyrcanum subsp. *keckianum* - Kazdağı maple	Endemic	
Thecocarpus carvifolius - Özçördük	Endemic	
Hesperis cilicica - gülek evening star	Endemic	
Hesperis bicuspidata - night violet	Endemic	

Beta macrocarpa - Chukundur

Hesperis bicuspidata - night violet

Figure 33. Detected Flora Sample of Tekirdağ Province

Fauna

As a result of the studies carried out in Edirne province, 2 endemic wild animal species were identified. There are also 1 CR, 7 EN, 23 NT and 19 VU wild animal species according to IUCN (seeTable 22

Table 22 . Endemic and Highly Protected Fauna Species Identified in Edirne Province

Live Group	Type	Endemism	IUCN
Farmers	*Triturus anatolicus* - Anatolian Smooth Salamander	Endemic	
Inland Water Fish	*Anguilla anguilla* - Eel	Not Endemic	CR - Critically Endangered
Inland Water Fish	*Phoxinus strandjae* - grass fish	Not Endemic	EN - Endangered
Inland Water Fish	*Cyprinus carpio* - Carp	Not Endemic	VU - Vulnerable
Birds	*Aquila nipalensis* - Steppe Eagle	Not Endemic	EN - Endangered
Birds	*Falco cherrug* - Great Falcon	Not Endemic	EN - Endangered
Birds	*Neophron percnopterus* - Little Vulture	Not Endemic	EN - Endangered
Birds	*Tetrax tetrax* - Mezgeldek	Not Endemic	NT - Near Threatened
Birds	*Marmaronetta angustirostris* - Summer Duck	Not Endemic	NT - Near Threatened
Birds	*Circus macrourus* - Steppe Cricket	Not Endemic	NT - Near Threatened
Birds	*Lanius senator* - Red-headed Spiderbird	Not Endemic	NT - Near Threatened
Birds	*Pelecanus crispus* - Crested Pelican	Not Endemic	NT - Near Threatened
Birds	*Aegypius monachus* - Black Vulture	Not Endemic	NT - Near Threatened
Birds	*Calidris ferruginea* - Red Sandpiper	Not Endemic	NT - Near Threatened
Birds	*Calidris canutus* - Great Sandpiper	Not Endemic	NT - Near Threatened
Birds	*Aythya nyroca* - Passbill	Not Endemic	NT - Near Threatened
Birds	*Turdus iliacus* - Red Thrush	Not Endemic	NT - Near Threatened
Birds	*Gypaetus barbatus* - Bearded Vulture	Not Endemic	NT - Near Threatened
Birds	*Limosa lapponica* - Coastal Mudflat	Not Endemic	NT - Near Threatened
Birds	*Limosa limosa* - Mudsucker	Not Endemic	NT - Near Threatened
Birds	*Gallinago media* - The Great Criminality	Not Endemic	NT - Near Threatened
Birds	*Numenius arquata* - Caravanning	Not Endemic	NT - Near Threatened
Birds	*Vanellus vanellus* - Redbird	Not Endemic	NT - Near Threatened
Birds	*Streptopelia turtur* - Steppe	Not Endemic	VU - Vulnerable
Birds	*Aquila heliaca* - Hawk Eagle	Not Endemic	VU - Vulnerable
Birds	*Branta ruficollis* - Siberian Goose	Not Endemic	VU - Vulnerable
Birds	*Falco columbarius* - Grey Falcon	Not Endemic	VU - Vulnerable

Live Group	Type	Endemism	IUCN
Birds	*Falco vespertinus* - Ala Falcon	Not Endemic	VU - Vulnerable
Birds	*Rissa tridactyla* - Black-footed Gull	Not Endemic	VU - Vulnerable
Birds	*Podiceps auritus* - Eared Grebe	Not Endemic	VU - Vulnerable
Birds	*Otis tarda* - Toy	Not Endemic	VU - Vulnerable
Birds	*Aythya ferina* - Elmer Egret	Not Endemic	VU - Vulnerable
Birds	*Clanga clanga* - Great Forest Eagle	Not Endemic	VU - Vulnerable
Birds	*Melanitta fusca* - Velvet Duck	Not Endemic	VU - Vulnerable
Birds	*Ichthyaetus audouinii* - Island Gull	Not Endemic	VU - Vulnerable
Mammals	*Spermophilus citellus* - European Ground Squirrel	Not Endemic	EN - Endangered
Mammals	*Oryctolagus cuniculus* - Island Rabbit	Not Endemic	EN - Endangered
Mammals	*Myotis bechsteinii* - Big-eared Bat	Not Endemic	NT - Near Threatened
Mammals	*Capra aegagrus* - Wild Goat	Not Endemic	NT - Near Threatened
Mammals	*Rhinolophus euryale* - Mediterranean horseshoe bat	Not Endemic	NT - Near Threatened
Mammals	*Lutra lutra* - Otter	Not Endemic	NT - Near Threatened
Mammals	*Plecotus austriacus* - Grey Long-eared Bat	Not Endemic	NT - Near Threatened
Mammals	*Miniopterus schreibersii* - Western long-winged bat	Not Endemic	VU - Vulnerable
Mammals	*Myotis capaccinii* - Long-footed Bat	Not Endemic	VU - Vulnerable
Mammals	*Vormela peregusna* - Pied Marten	Not Endemic	VU - Vulnerable
Mammals	*Myomimus roachi* - Mousey Seven-tail	Not Endemic	VU - Vulnerable
Mammals	*Rhinolophus mehelyi* - Mehely's horseshoe bat	Not Endemic	VU - Vulnerable
Mammals	*Talpa levantis* - Black Sea mole	Endemic	LC - Least Concern
Reptiles	*Testudo hermanni* - Thracian Tortoise	Not Endemic	EN - Endangered
Reptiles	*Emys orbicularis* - Spotted Turtle	Not Endemic	NT - Near Threatened
Reptiles	*Darevskia praticola* - Meadow Lizard	Not Endemic	NT - Near Threatened
Reptiles	*Testudo graeca* - Tortoise	Not Endemic	VU - Vulnerable

Neophron percnopterus - Little Vulture *Triturus anatolicus* - Anatolian Smooth Salamander

Figure 34. Fauna Specimen Identified in Edirne Province

As a result of the studies conducted in Kırklareli province, 2 endemic wild animal species were identified. In addition, there are 2 EN, 12 NT and 11 VU wild animal species according to IUCN (seeTable 23

Table 23 .Endemic and Highly Protected Fauna Species Identified in Kırklareli Province

Live Group	Type	Endemism	IUCN
Farmers	*Triturus anatolicus* - Anatolian Smooth Salamander	Endemic	
Inland Water Fish	*Cyprinus carpio* - Carp	Not Endemic	VU - Vulnerable
Inland Water Fish	*Barbus anatolicus* - Whiskered fish	Endemic	
Birds	*Lanius senator* - Red-headed Spiderbird	Not Endemic	NT - Near Threatened
Birds	*Haematopus ostralegus* - Pearlbird	Not Endemic	NT - Near Threatened
Birds	*Calidris ferruginea* - Red Sandpiper	Not Endemic	NT - Near Threatened
Birds	*Numenius arquata* - Caravanning	Not Endemic	NT - Near Threatened
Birds	*Limosa limosa* - Mudsucker	Not Endemic	NT - Near Threatened
Birds	*Streptopelia turtur* - Steppe	Not Endemic	VU - Vulnerable
Birds	*Aythya ferina* - Elmer Egret	Not Endemic	VU - Vulnerable
Birds	*Clanga clanga* - Great Forest Eagle	Not Endemic	VU - Vulnerable
Mammals	*Spermophilus citellus* - European Ground Squirrel	Not Endemic	EN - Endangered
Mammals	*Myotis bechsteinii* - Big-eared Bat	Not Endemic	NT - Near Threatened
Mammals	*Barbastella barbastellus* - Barbastella barbastellus	Not Endemic	NT - Near Threatened
Mammals	*Rhinolophus euryale* - Mediterranean horseshoe bat	Not Endemic	NT - Near Threatened
Mammals	*Lutra lutra* - Otter	Not Endemic	NT - Near Threatened
Mammals	*Plecotus austriacus* - Grey Long-eared Bat	Not Endemic	NT - Near Threatened
Mammals	*Miniopterus schreibersii* - Western long-winged bat	Not Endemic	VU - Vulnerable
Mammals	*Myotis capaccinii* - Long-footed Bat	Not Endemic	VU - Vulnerable
Mammals	*Vormela peregusna* - Pied Marten	Not Endemic	VU - Vulnerable
Mammals	*Nyctalus lasiopterus* - Great Tree Bat	Not Endemic	VU - Vulnerable
Mammals	*Rhinolophus mehelyi* - Mehely's horseshoe bat	Not Endemic	VU - Vulnerable
Mammals	*Myomimus roachi* - Mousey Seven-tail	Not Endemic	VU - Vulnerable
Reptiles	*Testudo hermanni* - Thracian Tortoise	Not Endemic	EN - Endangered
Reptiles	*Darevskia praticola* - Meadow Lizard	Not Endemic	NT - Near Threatened
Reptiles	*Emys orbicularis* - Spotted Turtle	Not Endemic	NT - Near Threatened
Reptiles	*Testudo graeca* - Tortoise	Not Endemic	VU - Vulnerable

Barbus anatolicus - Whiskered fish

Streptopelia turtur – Turtle Dove

Figure 35. Fauna Specimen Identified in Kırklareli Province

As a result of the studies carried out in Tekirdağ province, 2 endemic wild animal species were identified. In addition, there are 1 CR, 7 EN, 23 NT and 19 VU wild animal species according to IUCN (seeTable 24

Table 24 . Endemic and Highly Protected Fauna Species Identified in Tekirdağ Province

Live Group	Type	Endemism	IUCN
Double-headers	*Triturus anatolicus* - Anatolian Smooth Salamander	Endemic	
Inland Water Fish	*Anguilla anguilla* - Eel	Not Endemic	CR - Critically Endangered
Inland Water Fish	*Phoxinus strandjae* - grass fish	Not Endemic	EN - Endangered
Inland Water Fish	*Cyprinus carpio* - Carp	Not Endemic	VU - Vulnerable
Birds	*Aquila nipalensis* - Steppe Eagle	Not Endemic	EN - Endangered
Birds	*Falco cherrug* - Great Falcon	Not Endemic	EN - Endangered
Birds	*Neophron percnopterus* - Little Vulture	Not Endemic	EN - Endangered
Birds	*Tetrax tetrax* - Mezgeldek	Not Endemic	NT - Near Threatened
Birds	*Marmaronetta angustirostris* - Summer Duck	Not Endemic	NT - Near Threatened
Birds	*Circus macrourus* - Steppe Cricket	Not Endemic	NT - Near Threatened
Birds	*Lanius senator* - Red-headed Spiderbird	Not Endemic	NT - Near Threatened
Birds	*Pelecanus crispus* - Crested Pelican	Not Endemic	NT - Near Threatened
Birds	*Aegypius monachus* - Black Vulture	Not Endemic	NT - Near Threatened
Birds	*Calidris ferruginea* - Red Sandpiper	Not Endemic	NT - Near Threatened

Live Group	Type	Endemism	IUCN
Birds	*Calidris canutus* - Great Sandpiper	Not Endemic	NT - Near Threatened
Birds	*Aythya nyroca* - Passbill	Not Endemic	NT - Near Threatened
Birds	*Turdus iliacus* - Red Thrush	Not Endemic	NT - Near Threatened
Birds	*Gypaetus barbatus* - Bearded Vulture	Not Endemic	NT - Near Threatened
Birds	*Limosa lapponica* - Coastal Mudflat	Not Endemic	NT - Near Threatened
Birds	*Limosa limosa* - Mudsucker	Not Endemic	NT - Near Threatened
Birds	*Gallinago media* - The Great Criminality	Not Endemic	NT - Near Threatened
Birds	*Numenius arquata* - Caravanning	Not Endemic	NT - Near Threatened
Birds	*Vanellus vanellus* - Redbird	Not Endemic	NT - Near Threatened
Birds	*Streptopelia turtur* - Steppe	Not Endemic	VU - Vulnerable
Birds	*Aquila heliaca* - Hawk Eagle	Not Endemic	VU - Vulnerable
Birds	*Branta ruficollis* - Siberian Goose	Not Endemic	VU - Vulnerable
Birds	*Falco columbarius* - Grey Falcon	Not Endemic	VU - Vulnerable
Birds	*Falco vespertinus* - Ala Falcon	Not Endemic	VU - Vulnerable
Birds	*Rissa tridactyla* - Black-footed Gull	Not Endemic	VU - Vulnerable
Birds	*Podiceps auritus* - Eared Grebe	Not Endemic	VU - Vulnerable
Birds	*Otis tarda* - Toy	Not Endemic	VU - Vulnerable
Birds	*Aythya ferina* - Elmer Egret	Not Endemic	VU - Vulnerable
Birds	*Clanga clanga* - Great Forest Eagle	Not Endemic	VU - Vulnerable
Birds	*Melanitta fusca* - Velvet Duck	Not Endemic	VU - Vulnerable
Birds	*Ichthyaetus audouinii* - Island Gull	Not Endemic	VU - Vulnerable
Mammals	*Spermophilus citellus* - European Ground Squirrel	Not Endemic	EN - Endangered
Mammals	*Oryctolagus cuniculus* - Island Rabbit	Not Endemic	EN - Endangered
Mammals	*Myotis bechsteinii* - Big-eared Bat	Not Endemic	NT - Near Threatened
Mammals	*Capra aegagrus* - Wild Goat	Not Endemic	NT - Near Threatened
Mammals	*Rhinolophus euryale* - Mediterranean horseshoe bat	Not Endemic	NT - Near Threatened
Mammals	*Lutra lutra* - Otter	Not Endemic	NT - Near Threatened
Mammals	*Plecotus austriacus* - Grey Long-eared Bat	Not Endemic	NT - Near Threatened
Mammals	*Miniopterus schreibersii* - Western long-winged bat	Not Endemic	VU - Vulnerable
Mammals	*Myotis capaccinii* - Long-footed Bat	Not Endemic	VU - Vulnerable
Mammals	*Vormela peregusna* - Pied Marten	Not Endemic	VU - Vulnerable
Mammals	*Myomimus roachi* - Mousey Seven-tail	Not Endemic	VU - Vulnerable

Live Group	Type	Endemism	IUCN
Mammals	*Rhinolophus mehelyi* - Mehely's horseshoe bat	Not Endemic	VU - Vulnerable
Mammals	*Talpa levantis* - Black Sea mole	Endemic	LC - Least Concern
Reptiles	*Testudo hermanni* - Thracian Tortoise	Not Endemic	EN - Endangered
Reptiles	*Emys orbicularis* - Spotted Turtle	Not Endemic	NT - Near Threatened
Reptiles	*Darevskia praticola* - Meadow Lizard	Not Endemic	NT - Near Threatened
Reptiles	*Testudo graeca* - Tortoise	Not Endemic	VU - Vulnerable

Talpa levantis - Black Sea mole

Rissa tridactyla - Black-footed

Figure 36. Detected Fauna Specimen in Tekirdağ Province

Invasive Species

Species that are not part of an ecosystem's native fauna and arrive in a region through various pathways are referred to as invasive species. These species, once established in new areas and observed to reproduce and spread, can lead to a decline in biodiversity and negatively affect both the environment and human life. The impacts of invasive species can be ecological, economic, and even related to human health.

An example of an invasive mammal species found in the Meriç-Ergene Basin is the nutria (*Myocastor coypus*), also known as the coypu. In Turkey, nutria are reported to feed on the green parts and rhizomes (bulbs) of aquatic plants, occasionally consuming agricultural crops and fruits, as well as invertebrates. They are also known to gnaw on reeds. Additionally, by feeding on rice seedlings, reeds, and aquatic products, they may cause both economic and ecological losses in agricultural lands and wetlands. However, some researchers argue that despite being classified as invasive, nutria can reproduce, feed, and thrive easily in wetlands without necessarily harming nature.

Figure 37. *Myocastor coypus*

Potential Negative Impacts:

- Loss of habitat: Nutria often dig burrows along riverbanks and in reed beds. During floods, these burrows may be submerged, destroying their shelters.
- High juvenile mortality: Floods in spring may drown young individuals or destroy their nests.
- Disruption of food access: Flooding of reed beds and agricultural areas may limit their access to food sources.
- Increased opportunity for spread: On the other hand, floods may facilitate the movement of nutria to new areas, thus enhancing their invasive spread.

Potential Structural Damages:

- Nutria tend to dig burrows in soft-soil structures such as check dams, levees, and canals. These tunneling activities can:
- Reduce the impermeability of check dams,
- Lead to structural failure or leakage due to erosion,
- Compromise the stability and lifespan of hydraulic structures,
- Soil weakening: Burrows dug in soil embankments near water can cause sudden collapses or breaches during floods,
- Canal blockage: Nutria may transport reed and plant fragments, potentially clogging narrow sections of canals.

Flood control systems in Edirne (such as check dams, overflow structures, and levee systems) are often tested during periods of rapidly rising flow in the Meriç River, especially due to sudden inflows from Bulgaria. If active nutria burrows are present within these structures:

Without immediate intervention, these animals could cause serious structural vulnerabilities. Moreover, their spread may increase after flooding, as the expansion of reed areas creates temporarily more favorable habitats.

3.1.6. General Geology

According to the examination made within the scope of the Meriç-Ergene Basin Master Plan Report, the geological structure of Edirne Province is composed of Tertiary and Quaternary aged units. These are listed as Yenimuhacir Formation belonging to Oligocene, Danişment Formation belonging to Upper Oligocene, Ergene Formation belonging to Pliocene and Young Sediments belonging to Quaternary, namely Alluvium. The geological structure in Tekirdağ Province is young. In Tekirdag, the Palaeozoic aged metamorphites in the northeast and the Upper Cretaceous aged Yeniköy Mixture in the southeast surface. On top of these basic rocks, sedimentary rocks with similar characteristics from the Middle Eocene to the present day are surfaced. Kırklareli lands are generally composed of sedimentary, metamorphic and igneous rocks belonging to the core and cover rocks of the Yıldız Massif belonging to the Palaeozoic and IV Mesozoic periods and the Tertiary. In the Ergene region, Eocene limestones form a steep slope. There are abundant springs at the foot of this slope and Miocene and Pliocene clayey, sandy, calcareous Marble crystallised limestone and dolomite fill layers are covered with alluvium in places.

Tekirdağ province geologically covers the units both north and south of the Ergene River, which crosses the Thrace region from east to west. In general, Palaeozoic aged metamorphites in the northeast of the province and Upper Cretaceous aged Yeniköy mixture in the southwest of the province. On top of these basic rocks, sedimentary rocks with similar characteristics from the Middle Eocene to the present day are surfaced. Palaeozoic aged units are mostly located in the north of the province and constitute the eastern part of the Istranca massif. These units, which were formed in the Permian-Triassic age range, surface in the northeast of Saray district. The oldest unit is Tekedere Formation, and the unit consists of biotite schist, garnet schist, calc schist lenses, quartz schist, amphibolite, biotite gneiss, alkali granite and aplite and pegmatites cutting these rocks. This unit is overlain by Kizilagac metagranite with gneissic character. The Permian aged unit is cut by quartz and aplite dykes in places. Shermet quartzite is unconformably overlying the Kizilagac metagranite. The unit consists of quartz, little mica and feldspar. Mesozoic aged units surface in the northeast and southwest of the province. Among these, Yeniköy mixture is Upper Cretaceous and surfaces around Şarköy. The Yeniköy mixture, which consists of serpentinite, metadolerite, metachert, sericitactinolite-chlorite schist, glaucophane lavsonite schist and diorite blocks, which are tectonically related to each other, is overlain by the Lört formation consisting of pelagic limestones of Upper Cretaceous age. The upper parts of the unit are in the form of glauconite and quartz sandy limestone. In the northeast of the province, the Triassic aged Mahya schist is surfaced, and the unit consists of garnet schist, clayey schist, calc schist, graphitic schist and mica schist. Cenozoic aged units surface in the northeast and southwest of the province. In the northeast of the province around Saray district, the Islambeyli Formation, which starts with Middle-Upper Eocene aged pebbles and sandstones and turns into gastropot coursed limestone towards the top, is observed.

When the basin is considered specifically, the rocks of the Palaeozoic-Upper Cretaceous time interval are taken as a basis and the stratigraphy of a rapidly collapsing and rapidly deposited Tertiary Basin starting from the Eocene is summarised. At the top of the basement rocks, the Çetmi Ophiolitic Melange is overlain by the Gaziköy Formation consisting of fine sandstones, siltstones and dark grey shales containing silicified tuff, which forms the base of the Eocene sediments. Above this is the Keşan Formation consisting mainly of sandstone, the Soğucak Formation consisting of grey-beige micritic limestone and reefal limestone, and the Ceylan Formation consisting of grey shale, sandstone and clayey limestone with tuff interbedded.

Oligocene deposits begin with the Mezardere Formation, which consists of green grey shale, marl and tuffs. It is overlain by the Osmancık Formation containing sandstone, shale, pebbles,

limestone and thin bands of lignite and the Danişmen Formation containing grey-green claystone, sandstone, pebbles, tuff and lignite. Danişmen Formation was named as lignite sandstones in the first studies conducted in the region. The name of the formation was first used by Boer (1954) and Beer and Wright (1960). However, the Osmancık Formation was also included in this unit. Unal (1967) kept the Osmancik Formation separate and defined the Danismen Shale at the formation stage. Kasar et al. (1983) changed it to Danişmen Formation due to the inhomogeneity of the lithology (seeFigure 38).

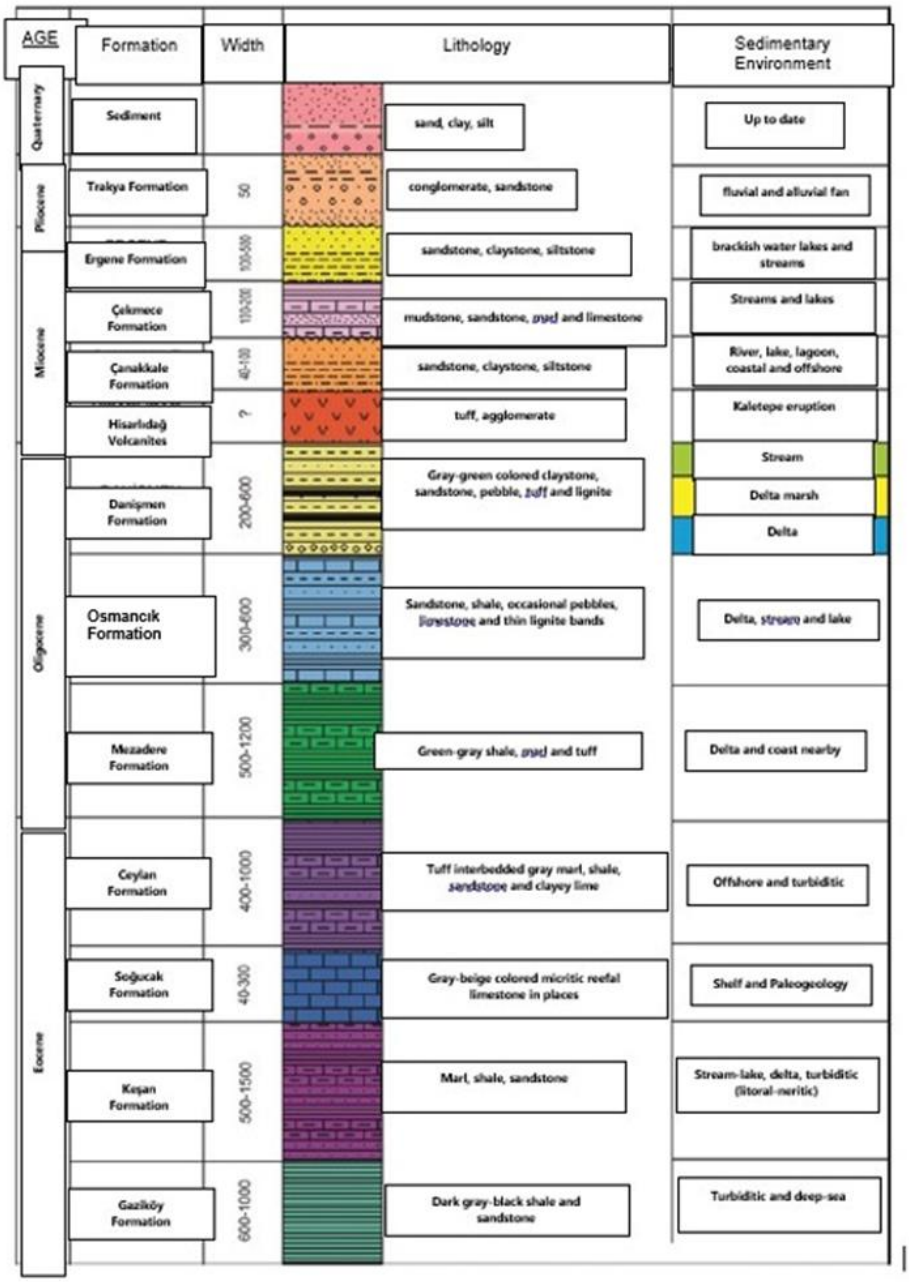


Figure 38 . Generalised Stratigraphic Section of Ergene (Trakya) Basin (Edited by Dr. İlker Şengüler from MTA and TPAO studies (Şengüler, 2022))

The areas covered by the alluvial units in the Meriç-Ergene Basin are mapped in the FRPA Report (see Figure 39).

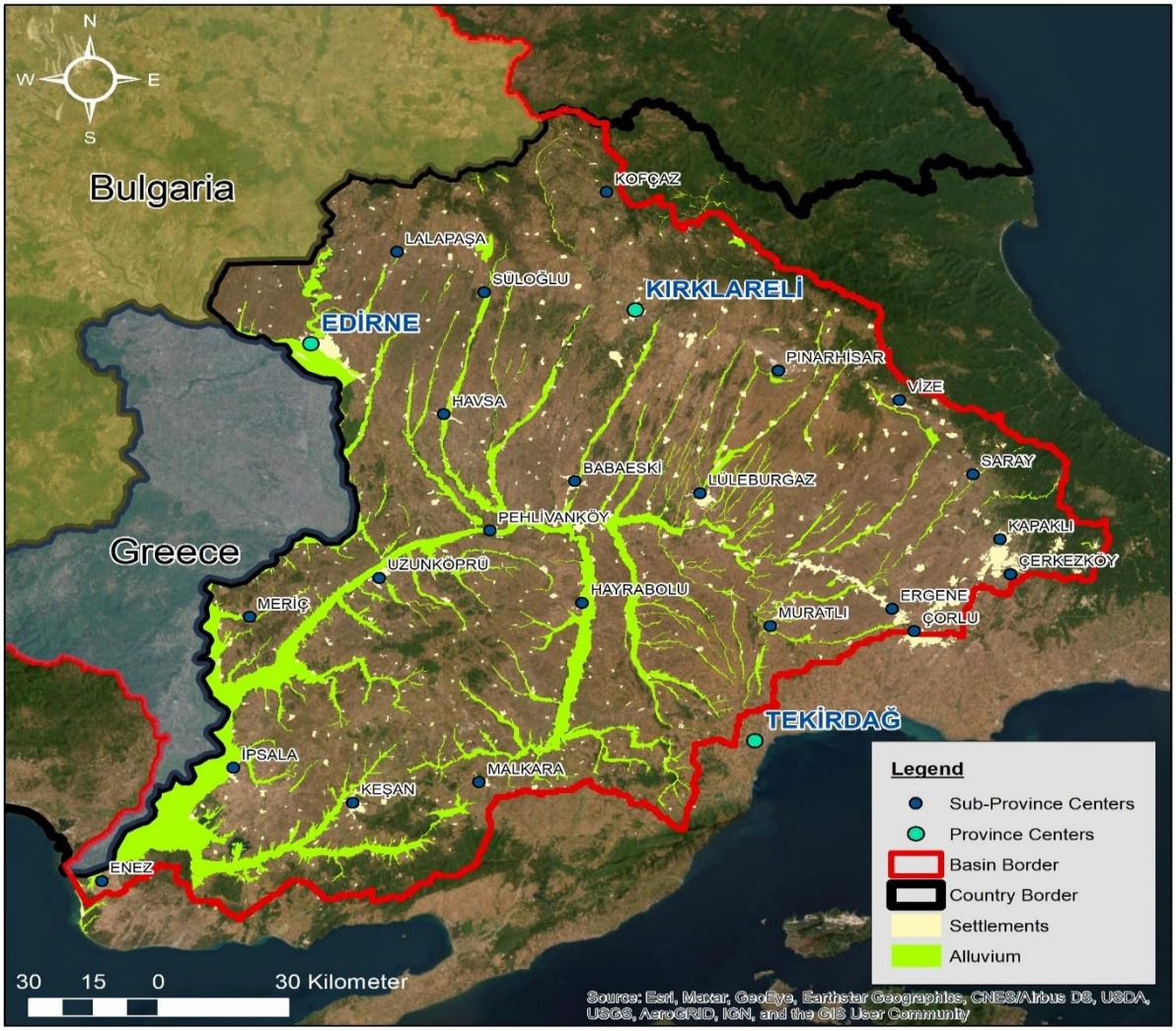


Figure 39 . Meriç-Ergene Basin Alluvial Sites (Flood Risk Preliminary Assessment Report, 2022)

Seismicity

According to the Meriç Ergene Basin Master Plan Report, the study area is located within the borders of the fourth-degree earthquake zone in the "Türkiye Earthquake Zones Map" prepared by the Ministry of Public Works and Settlement. The earthquake zones map prepared in this context is given in Figure 40.

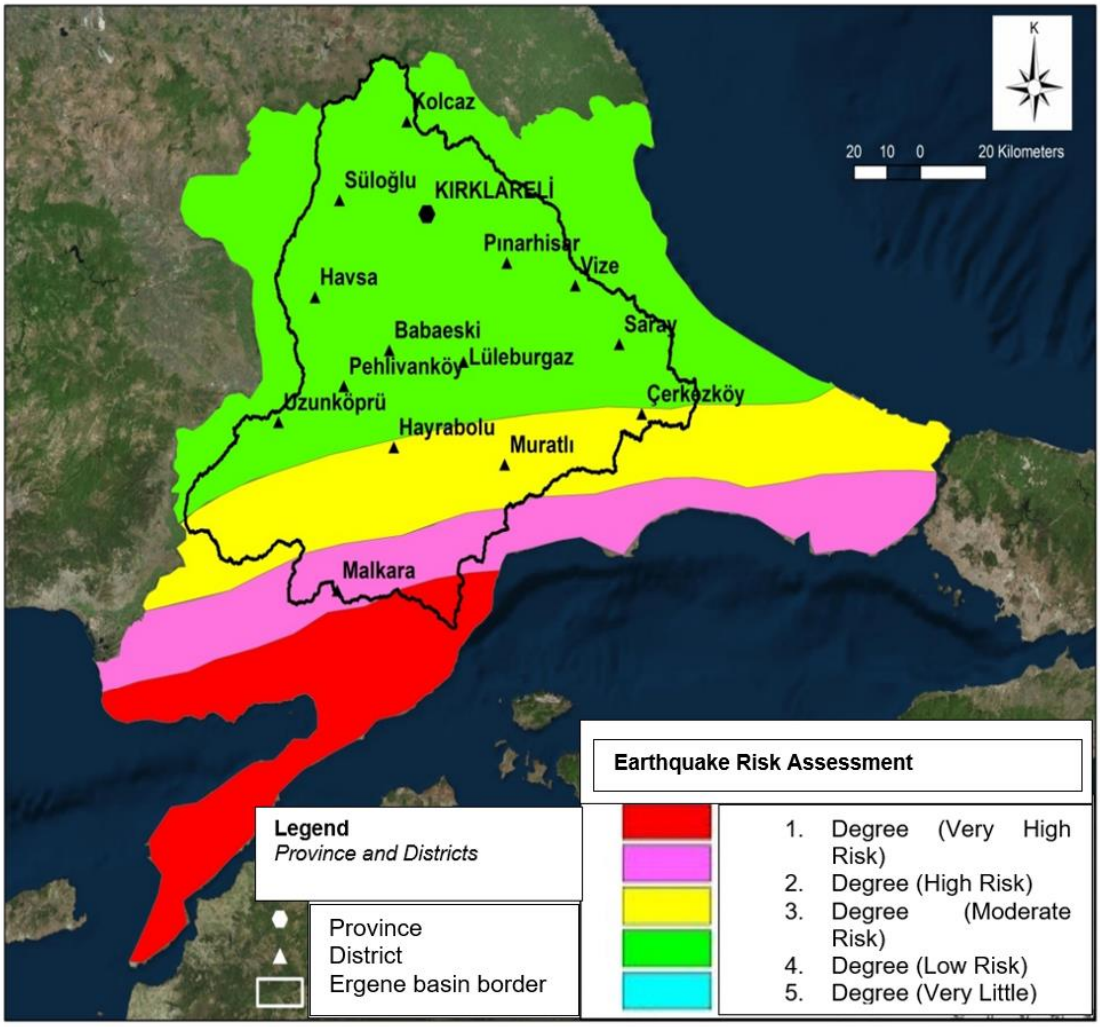


Figure 40 . Meriç Ergene Basin Earthquake Zones Map

3.1.7. Mountains, Plains

The Meriç-Ergene Basin is located in the Marmara Region, one of the regions with the lowest elevation in Türkiye. The plains formed by the alluvium carried by the tributaries of the Ergene River are covered with plateaus and mountains in places. The general topography of the basin is low and the northeast is the highest region. Agricultural lands cover the majority of the basin, especially in Edirne province, the width of agricultural areas is above the average of Türkiye.

The most important mountains in the Meriç-Ergene Basin are Istranca (Yıldız) Mountains and Koru Mountains. Apart from these, Çandır Mountains and Uzunköprü Mountains with low elevation are also located in the basin.

The Strandja Mountains extend northeast of the basin along the Black Sea coast towards the Bulgarian border and continue for a length of approximately 150 km between Istanbul and Bulgaria. Between Kırklareli and Demirköy, the summit called Mahya Mountain, which is approximately 1,000 m, is the highest point of the Strandja Mountains. The fragmented

appearance of the mountains is formed by the tributaries of the waters coming from Istranca Mountains reaching Ergene.

Koru Mountains are the mountains lying in the southwest of the basin, which are inserted towards the Saroz Gulf. These mountains end the southern part of the Ergene Basin where the elevation does not exceed 150-200 m. The highest point is Yerli Su Tepe, which is around 725 m. The direction of the mountains facing the Saroz Gulf is covered with steep slopes.

The important plains in the Meriç-Ergene Basin are Ergene Plain and İpsala Plain. Ergene Plain is a plain starting from Çerkezköy and gradually expanding westwards along the Ergene bed and covering the entire Ergene Valley and a part of the territory of Uzunköprü and Meriç District. On the other hand, İpsala Plain is a plain covering the Meriç Valley and extending to Enez, where alluvial soils are dense. Both plains are fertile and suitable for agriculture.

3.1.7.1. Soil Structure and Types

The most dominant soil series in the Meriç-Ergene Basin, where various soil orders are observed, are Entisol, Inceptisol, Alfisol and Vertisol. The distribution of the Meriç-Ergene Basin according to the Major Soil Groups (MSG) as shown inTable 25 below has been analysed. When the distribution of the basin according to the "Major Soil Groups (MSG)" is analysed; 10.7% of the general area is Alluvial Soils (A), 0.1 % is Hydromorphic Alluvial Soils (H), 8.9 % is Brown Forest Soils (M), 26.8 % is Non-Lime Brown Forest Soils (N), 0.2% Alluvial Coastal Soils (S), 29.9% Calcareous Brown Soils (U), 19.5% Vertisols (V) and 3.8% other soils.

Table 25 . Meriç-Ergene Basin Major Soil Groups Distribution

Major Soil Groups (MSG)	Edirne (ha)	Tekirdağ (ha)	Kırklareli (ha)	Total (ha)	Percentage (%)
A (Alluvial Soils)	8,283.7	31,597.7	39,741.0	154,142.4	10.7
H (Hydromorphic Alluvial Soils)	754.0	0.0	0.0	754.0	0.1
M (Brown Forest Soils)	25,178.9	39,551.7	63,271.2	128,001.8	8.9
N (Calcareous Brown Forest Soils)	158,088.2	135,265.3	90,774.3	384,127.7	26.8
S (Alluvial Coastal Soils)	0.0	3,330.3	0.0	3,330.3	0.2
U (Calcareous Brown Soils)	186,614.1	122,135.2	120,507.7	429,257.0	29.9
V (Vertisols)	87,093.1	95,584.2	97,657.6	280,334.8	19.5
Other	22,429.5	13,891.0	18,036.8	54,357.3	3.8
Total	**562,961.5**	**441,355.4**	**429,988.5**	**1,434,305.4**	**100.0**

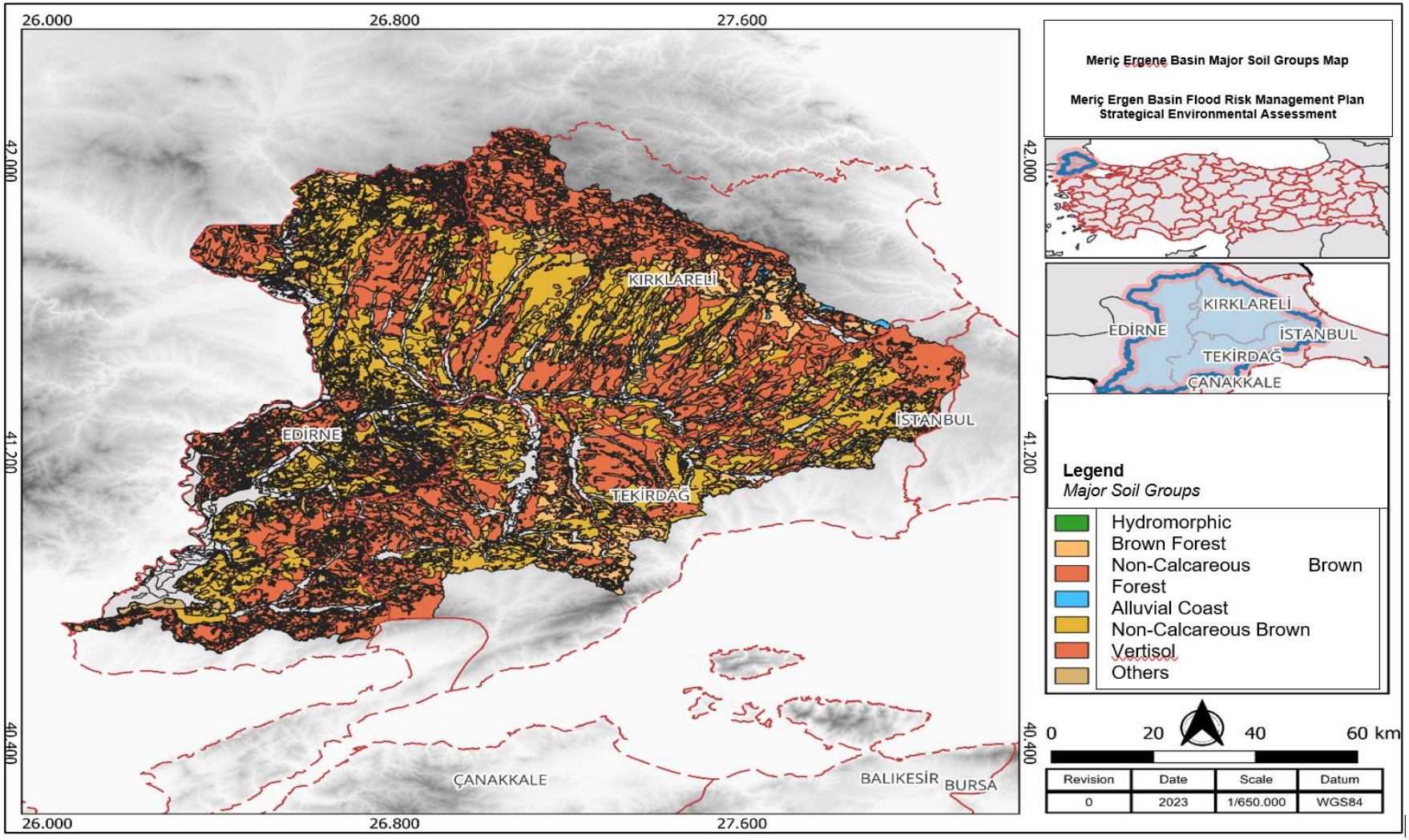


Figure 41. Meriç-Ergene Basin Major Soil Groups Map

In the Meriç-Ergene Basin, 151,355 ha area with 10.6% of the general area is designated as Class I, 515,871 ha area with 36% is designated as Class II, 292,230 ha area with 20.4% is designated as Class III and 62,745 ha area with 4.4% is designated as Class IV. "Lands Unsuitable for Tillage (Class VI-VII-VIII)" is determined as Class VI on 118,223 ha area with 8.2%, Class VII on 239,558 ha area with 16.7% and Class VII on 5,209 ha area with 0.4%. "Lands not suitable for agriculture (Class VIII)" of the general area; ha area is determined as Class VIII. "Other Non-Agricultural Lands" 49,024 ha area, which is 3.4% of the general area, has been determined as "Other Lands".

Table 26. Meriç-Ergene Basin Soil Classes

Major Soil Groups (MSG)	Edirne (ha)	Tekirdağ (ha)	Kırklareli (ha)	Total (ha)	Percentage (%)
I-Soil cultivated land suitable for agriculture	55,767.9	55,801.0	39,786.5	151,355.4	10.6
II- Land Suitable for Tillage Agriculture	171,955.6	176,150.0	167,765.6	515,871.2	36.0
III- Land Suitable for Tillage Agriculture	130,810.2	65,016.5	96,403.5	292,230.2	20.4
IV- Land Suitable for Tillage Agriculture	29,982.5	8,754.0	24,009.3	62,745.8	4.4
VI- Lands Unsuitable for Tillage Agriculture	64,763.5	16,386.7	37,073.1	118,223.3	8.2
VII- Lands Unsuitable for Tillage Agriculture	87,288.5	105,356.1	46,913.9	239,558.4	16.7
VIII-Agricultural Lands	3,390.4	1,896.0	10.2	5,296.6	0.4
Other Lands	19,003.0	11,995.0	18,026.6	49,024.6	3.4
Total	**562,961.5**	**441,355.4**	**429,988.5**	**1,434,305.4**	**100,0**

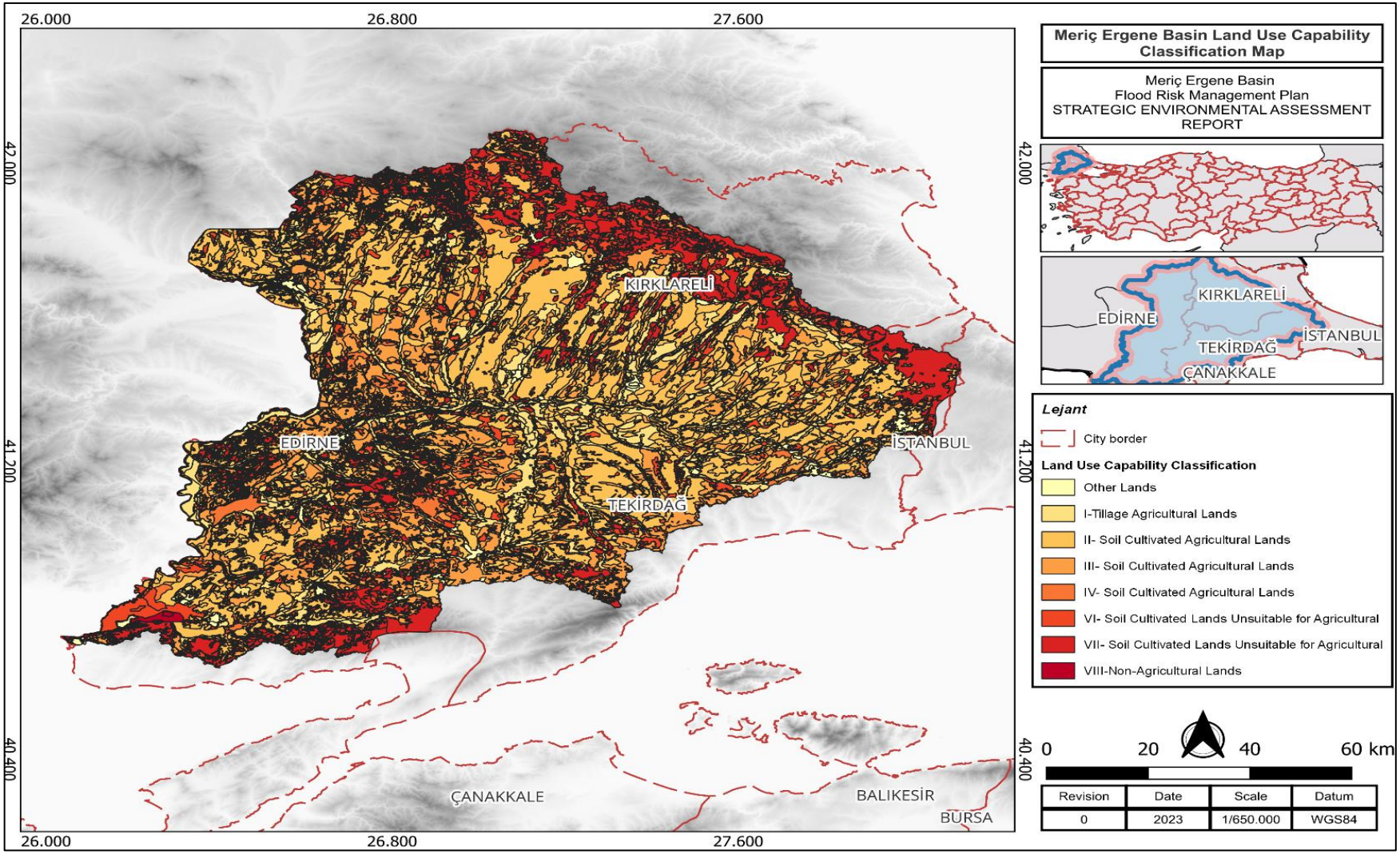


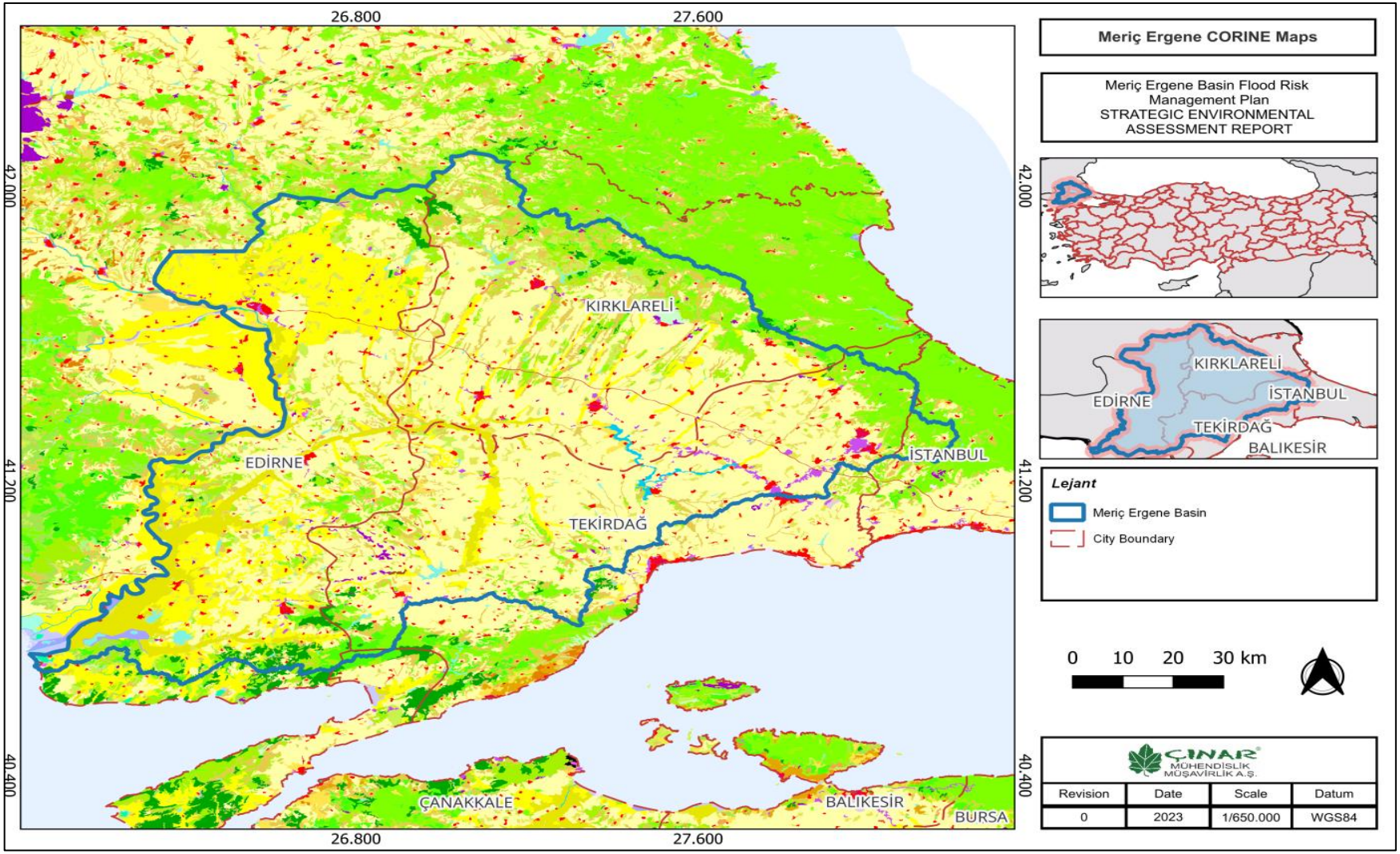
Figure 42. Meriç-Ergene Basin Soil Classes Map

3.1.7.2. Land Use

For obtaining settlement polygons, CORINE (Coordination of Information on the Environment) Land Cover/Use Map data updated in 2018 by the European Environment Agency (EEA) was used. CORINE land cover data was prepared in 2018, therefore in some areas the data is outdated.

Codes and areas related to land uses according to CORINE and CLC are given in Figure 43. The land cover and land use status of the Meriç-Ergene Basin was examined using the land cover classification system prepared by analysing Landsat satellite images of 2018 within the scope of the CORINE project. As can be seen in Figure 43, agricultural land density is quite high in the Meriç-Ergene Basin.

In the basin, agriculture is carried out on a total area of 1,116,275.55 ha, of which 848,683.98 ha is dry and 267,591.27 ha is irrigated.


26.800
27.600
42.000
41.200
40.400
KIRKLARELİ
EDİRNE
TEKİRDAĞ
İSTANBUL
ÇANAKKALE
BALIKESİR
BURSA
Meriç Ergene CORINE Maps
Meriç Ergene Basin Flood Risk Management Plan STRATEGIC ENVIRONMENTAL ASSESSMENT REPORT
KIRKLARELİ
EDİRNE
İSTANBUL
TEKİRDAĞ
BALIKESİR
Lejant
Meriç Ergene Basin
City Boundary
0 10 20 30 km
ÇINAR MÜHENDİSLİK MÜŞAVİRLİK A.Ş.
Revision
Date
Scale
Datum
0
2023
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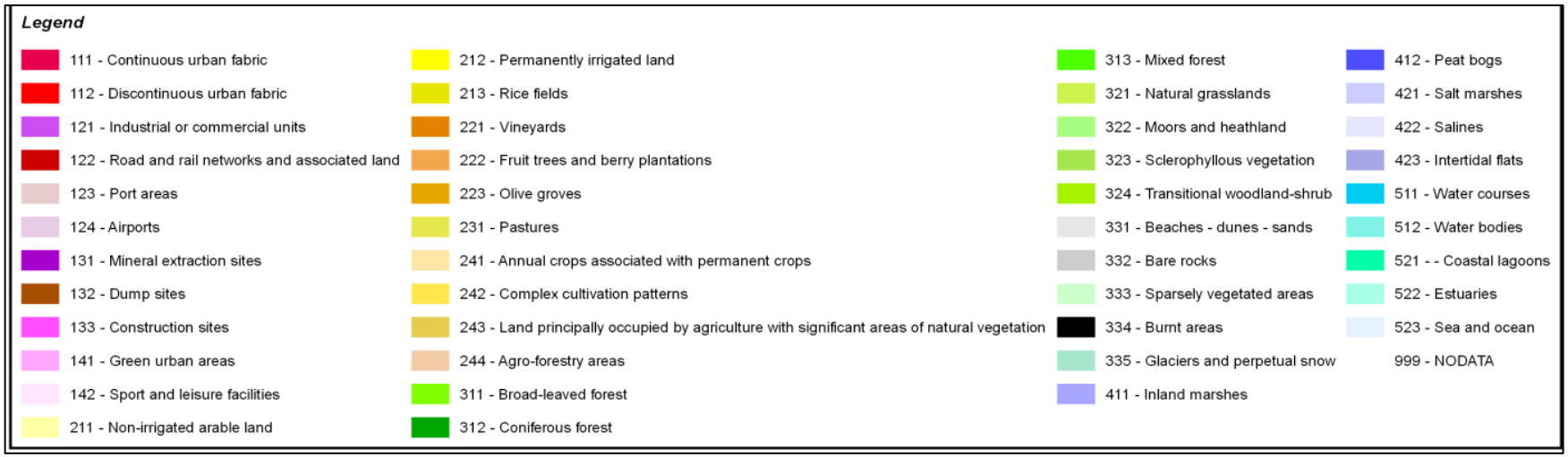


Figure 43 . Meriç-Ergene Basin CORINE Data

Table 27 . CORINE Data by Province

CORINE Land Use Code	Area (Ha)	CORINE Land Cover Classes
İstanbul		
324	49.37	Plant exchange areas
Kırklareli		
111	530.60	Continuous city structure
112	8533.85	Intermittent / discontinuous city structure
121	2077.55	Industrial and commercial units
122	7036.45	Highways, railways and related areas
131	1103.19	Mineral extraction sites
132	26.14	Discharge sites
133	152.22	Construction sites
211	641354.23	Non-irrigated arable area
212	96435.49	Continuously irrigated areas
213	8403.79	Rice fields
221	131.67	Vineyards
222	542.22	Fruit orchards
231	13072.37	Pasture areas
242	6478.78	Mixed agricultural areas
243	49772.40	Agricultural areas with natural vegetation
311	457955.95	Broad-leaved forests
312	8008.94	Coniferous forests
313	6974.68	Mixed forests
321	24812.83	Natural meadows
324	48662.38	Plant exchange areas
333	4232.57	Sparse Plant Areas
411	107.90	Terrestrial Marshes
511	3637.76	Waterways
512	1936.47	Water bodies
Tekirdağ		
111	1200.27	Continuous city structure
112	11985.01	Intermittent / discontinuous city structure
121	6150.30	Industrial and commercial units
122	6544.12	Highways, railways and related areas
131	2363.73	Mineral extraction sites
132	291.13	Discharge sites
133	91.25	Construction sites
142	34.20	Sports and leisure areas
211	499528.95	Non-irrigated arable area
212	22876.25	Continuously irrigated areas
213	12253.02	Rice fields
221	99.73	Vineyards
222	77.82	Fruit orchards
231	20739.33	Pasture areas
242	4406.58	Mixed agricultural areas

CORINE Land Use Code	Area (Ha)	CORINE Land Cover Classes
243	24304.46	Agricultural areas with natural vegetation
311	455861.81	Broad-leaved forests
312	4729.80	Coniferous forests
313	10834.27	Mixed forests
321	3979.29	Natural meadows
324	13730.98	Plant exchange areas
333	28.51	Sparse Plant Areas
411	64.44	Terrestrial Marshes
511	3637.76	Waterways
512	2122.01	Water bodies
Edirne		
111	515.01	Continuous city structure
112	10382.48	Intermittent / discontinuous city structure
121	2226.05	Industrial and commercial units
122	554.69	Roads, railways and related areas
124	83.08	Airfields
131	1619.83	Mineral extraction sites
132	38.33	Discharge sites
133	320.96	Construction sites
142	293.39	Sports and leisure areas
211	536615.05	Non-irrigated arable area
212	211323.07	Continuously irrigated areas
213	67124.15	Rice fields
221	59.60	Vineyards
222	1407.43	Fruit orchards
231	27131.39	Pasture areas
242	12062.27	Mixed agricultural areas
243	27003.07	Agricultural areas with natural vegetation
311	26254.50	Broad-leaved forests
312	20306.87	Coniferous forests
313	13528.92	Mixed forests
321	14938.81	Natural meadows
323	3233.82	Sclerophyll vegetation
324	39413.57	Plant exchange areas
331	1015.51	Beaches, beaches, sandbanks
334	80.01	Burnt areas
411	6053.06	Terrestrial Marshes
421	1931.63	Salt marsh
511	9521.40	Waterways
512	5188.94	Water bodies
521	504.38	Coastal lagoons

3.1.8. Erosion Status

In recent years, incorrect and intensive land use due to agricultural activities of people to increase production has led to the deterioration of the natural balance and the land has become unusable. Since sustainable use is not taken into account, the dramatic change in land use and land cover (LULC) characteristics over time has caused land degradation. With this negative process, soil properties (physical, chemical and biological) deteriorated and accelerated erosion occurred.

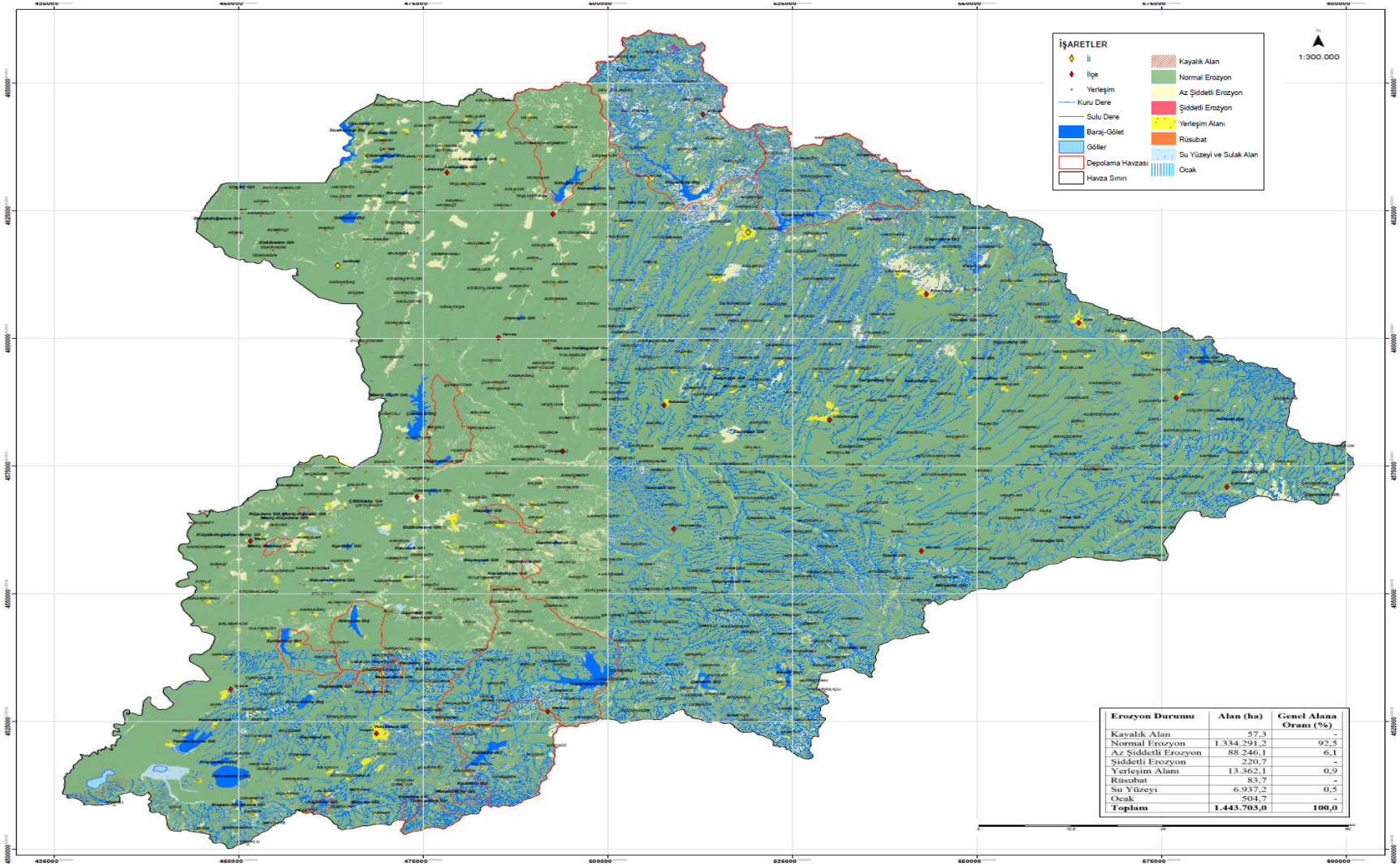
In the basin area, which is generally under the influence of continental climate, summers are hot and dry, winters are cold and harsh. The basin is arid-less humid, medium temperature, water surplus is strongly visible in the winter season and it is within the areas close to the sea influence. The most dominant soil series in the Ergene Basin, where various soil orders are observed, are Entisol, Inceptisol, Alfisol and Vertisol (Haktanır, 2000)

In the Ergene Basin, agricultural areas are the most widespread of the LULUCF classes. In the basin area where mostly dry agriculture is practised (43.6%), irrigated agriculture is practised only in the lands around rivers and water bodies (lakes, ponds, dams, etc.) (4.7%). The main agricultural products grown in the area are wheat, sunflower, canola and rice. In the basin area where the settlement areas are distributed according to the water resources, there are uses in the form of pasture and forest areas in the areas towards the water division line (Özşahin, 2016) .

Certain measures should be taken to reduce the erosion in the basin to optimum level in the near future. In this context, firstly soil protection and monitoring studies should be carried out. LULUC changes should be realised in a controlled and planned manner. Erosion monitoring and prevention system should be established. Similar studies should be carried out in narrower (provincial level) or wider (Thrace Peninsula) areas.

In the Meriç-Ergene and Northern Marmara (Thrace Section) Basin, Oak (Quercus spp.) forms pure and mixed forests in general. Besides, Larch (Pinus nigra) has found dense distribution areas in the inland areas. Where the Black Sea climate is observed, Beech (Fagus) and Hornbeam (Carpinus) form mixed stands. In the southern parts where the Mediterranean climate is observed, Red Pine (Pinus brutia) forms pure stands as well as mixed stands with Oak (Quercus spp.).

In the Meriç-Ergene Basin, erosion is normal and the basin sediment yield is well below the average of Türkiye. Normal erosion is observed to a great extent in the basin agricultural lands. In soil cultivation, farmers pay attention to ploughing parallel to the equal elevation curves. However, the fact that the fields are not suitable in terms of size, shape and direction does not allow for proper tillage. Intensive animal husbandry is observed in the Meriç-Ergene Basin. Although barn animal husbandry is important, pasture animal husbandry maintains its weight. Small ponds have been constructed by villagers and related organisations for drinking water purposes in areas where livestock grazing is carried out. These facilities can have an important function in reducing sediment yield in small stream basins. However, these facilities are insufficient in the basin, and erosion is exacerbated on animal walkways when grazing animals are directed to a point for irrigation (DSİ, Meriç-Ergene Master Plan, 2018) . The erosion status map of the region is given in Figure 44.



Erozyon Durumu	Alan (ha)	Genel Alana Oranı (%)
Kayalık Alan	57,3	-
Normal Erozyon	1.334.291,2	92,5
Az Şiddetli Erozyon	88.246,1	6,1
Şiddetli Erozyon	220,7	-
Yerleşim Alanı	13.362,1	0,9
Rüsubat	83,7	-
Su Yüzeyi	6.937,2	0,5
Ocak	504,7	-
Toplam	**1.443.703,0**	**100,0**

Figure 44 . Erosion Status Map of the Region (DSİ, 2018)

3.1.9. Climate

In the study area, which is under the influence of continental climate, summers are hot and dry in the north and winters are cold and harsh. Mediterranean climate is dominant in the south of the basin and summers are hot and dry, winters are mild and rainy.

Edirne province and its neighbourhood have continental climate characteristics. Summers are hot and dry, winters are very cold and harsh. Edirne Province, which is located in the Marmara and Maritsa Basins, falls into the semi-humid climate type according to the general humidity indices. The Mediterranean climate prevails in Enez District and the coastline located in the south of the province and in the Saroz Gulf of the Aegean Sea, with hot and dry summers and mild and rainy winters.

In the coastal strip of Tekirdağ, where the effects of the Mediterranean climate are seen, summers are hot and winters are mild. In the coastal strip, which includes the Ergene basin, the land climate is rather dominant. Especially in winter, the effects of the Northern European climate are seen. Since it comes here from the Balkans, it is dry and freezing cold in winter. Tekirdağ is very windy in summer and winter. The prevailing and continuous wind is the wind of the moyraz, the second important wind is the lodost. Tekirdağ province is in the Mediterranean rainfall regime category in terms of precipitation regime. The type of precipitation falling on the soil is usually rain and snowfall is rare. On average, the least precipitation in Tekirdağ is observed in August and the most in December.

The Black Sea and Yıldız (Strandja) Mountains have a great influence on the formation of Kırklareli climate. For this reason, the climate shows two different structures when evaluated locally. Black Sea climate is observed in the north-facing parts of Yıldız Mountains. Therefore, summers are cool in the coastal areas, winters are cold and rainy in almost every season. The inland areas far from the sea have a continental climate. In this part of the Ergene Basin, summers are hot and dry, winters are cold and snowy. However, the temperature difference varies from year to year. In some years, the winter months are warmer than Central Anatolia, while in some years they are even colder than Eastern Anatolia. The main reason for this is that the climate of the region is a mixture of the continental climate of Central Europe and the Black Sea, Mediterranean and Marmara climates.

3.1.9.1. Meteorological Stations

Meriç-Ergene Basin is located within the borders of Tekirdağ, Edirne and Kırklareli provinces. For the project, long-term data of the meteorological observation stations (MOS) affiliated to the General Directorate of Meteorology (GDM) in these provinces were utilised. Meteorological observation stations of the basin are given in Figure 45.

Figure 45. Meriç-Ergene Basin Meteorological Observation Stations (Hydrology Report, 2023)

3.1.9.2. Precipitation

As the project area is surrounded by mountainous areas, it is closed to the softening effects coming from the seas, which causes the winter months to be harsh and snowy in this region. Considering the average monthly total precipitation, winter and spring months are rainy and summer months are less rainy.

According to the official statistics of GDM, the long years average of total precipitation amount of Tekirdağ province is given by Figure 46.

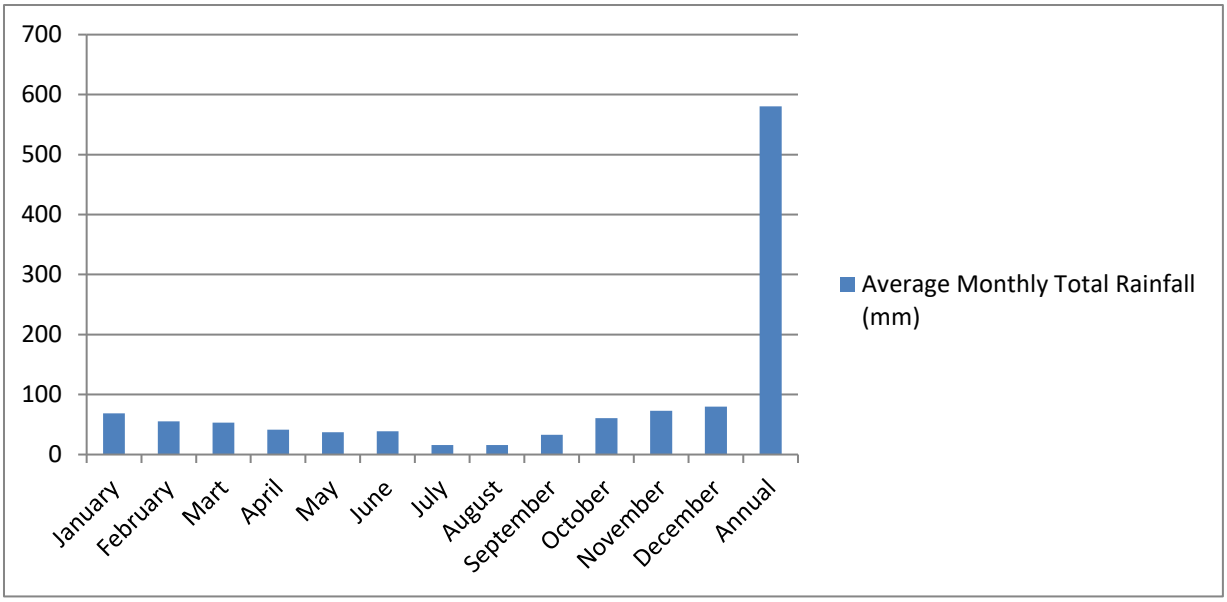


Figure 46 . Tekirdağ Monthly Average Rainfall and Annual Total Rainfall (1940-2022)

According to the official statistics of MGM, the long years average of total precipitation amount of Edirne province is given inFigure 47 .

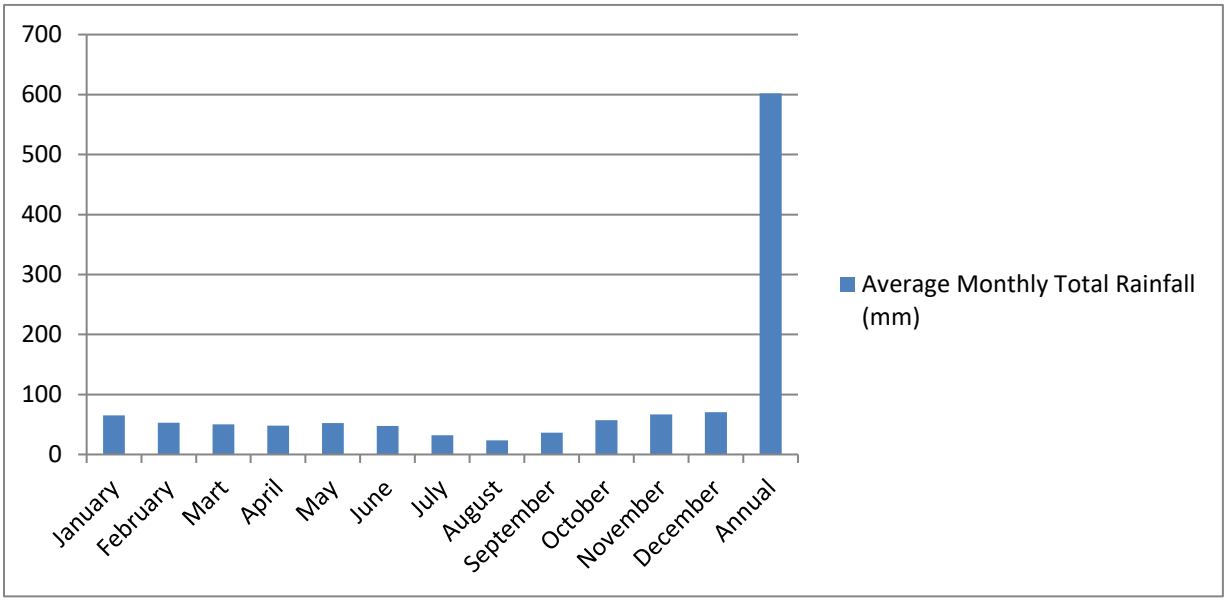


Figure 47 . Edirne Monthly Average Rainfall and Annual Total Rainfall (1930-2022)

According to the official statistics of GDM, the long years average of total precipitation amount of Kırklareli province is given by Figure 48.

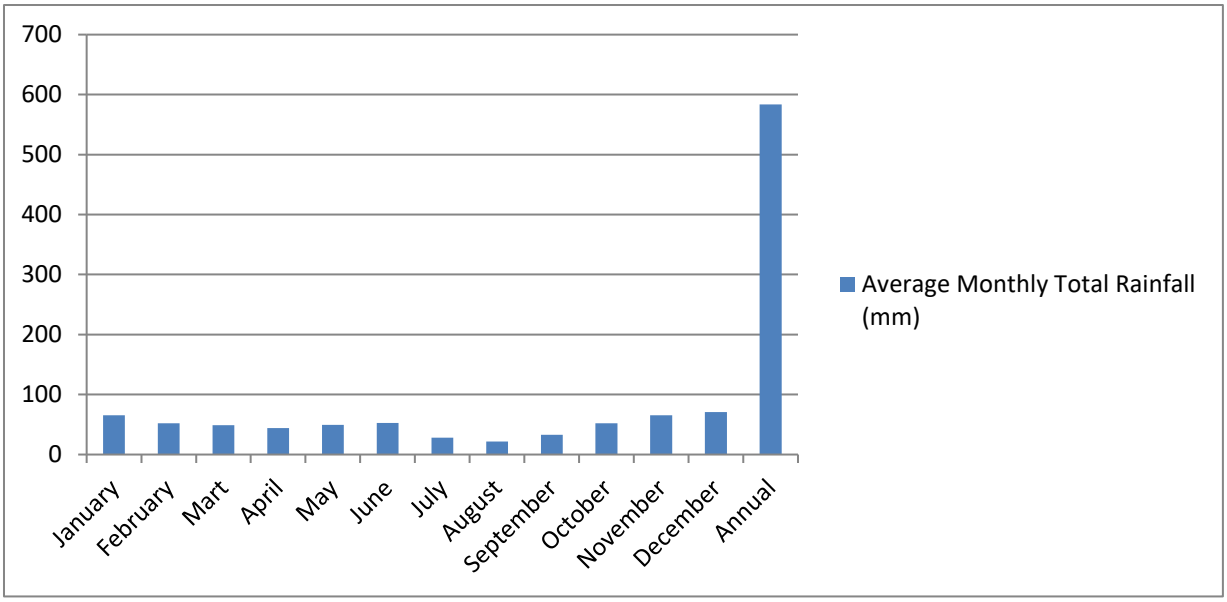


Figure 48 . Kırklareli Monthly Average Rainfall and Annual Total Rainfall (1959-2022)

The comparison of total precipitation amount of Tekirdağ, Edirne and Kırklareli provinces with the long years average is given in Figure 49.

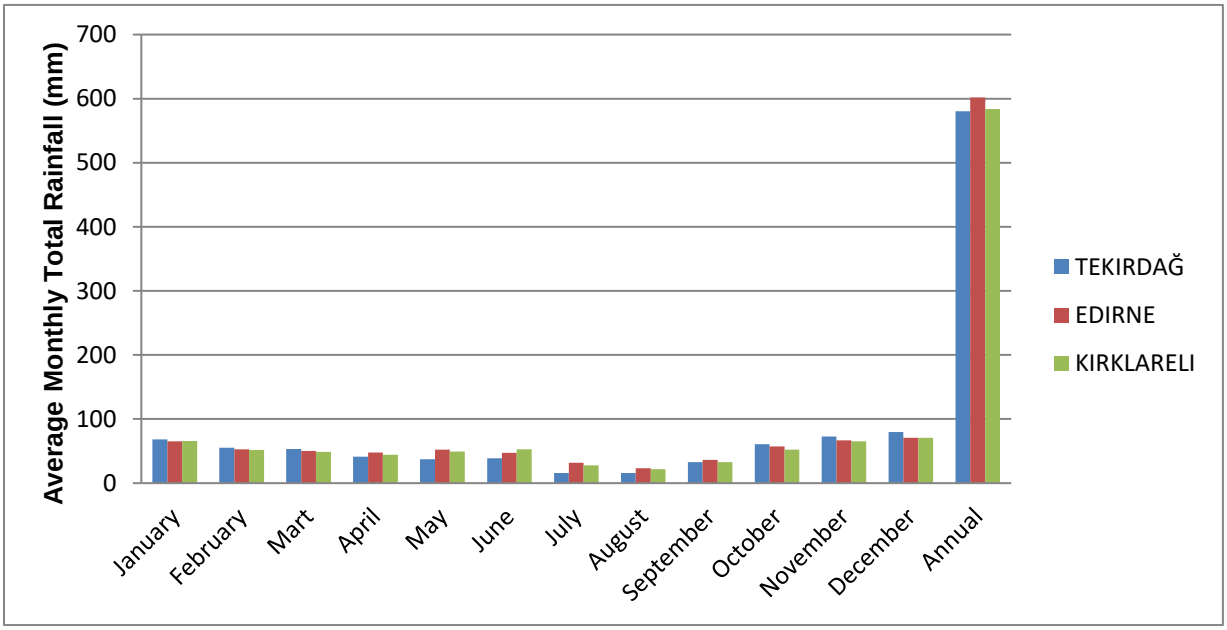


Figure 49 . Comparison of Total Precipitation and Average Monthly Rainfall Amount of Tekirdağ, Edirne and Kırklareli Provinces with Long-Year Averages

As can be seen in Figure 49, according to the data obtained from MOSs, although precipitation is observed more in the provinces located in the east of the Meriç-Ergene basin (Tekirdağ and Kırklareli), the total precipitation amount of Edirne province located in the west of the basin is

higher than the other provinces on an annual basis. Maps showing the annual average precipitation amounts of the basin are given by Figure 50.

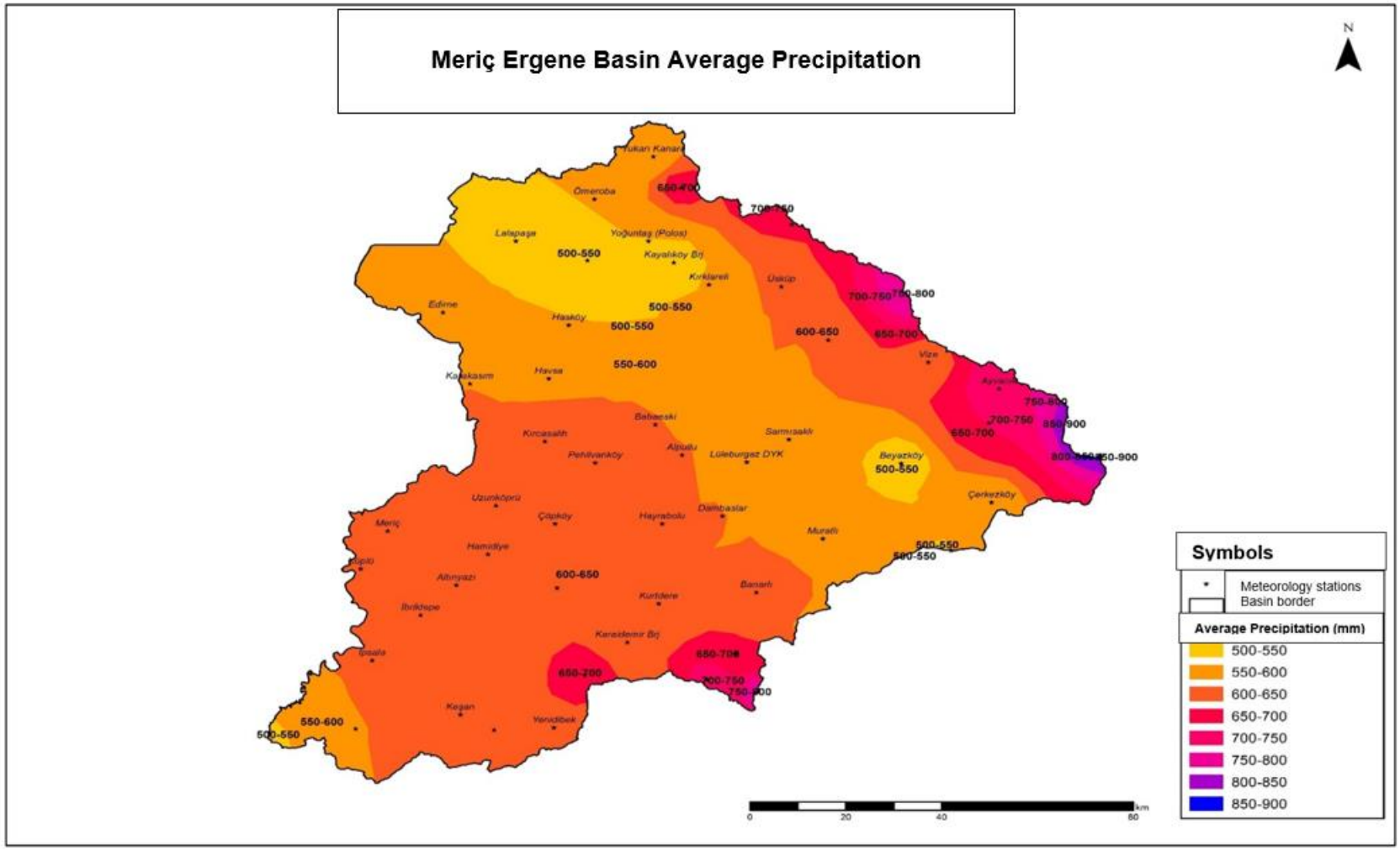


Figure 50 .Meriç Ergene Basin Average Rainfall

3.1.9.3. Temperature

Looking at the monthly temperature averages obtained from the MOSs in and around the Meriç-Ergene Basin and the official statistics of GDM for many years, the hottest summer months were observed in June and July. Minimum temperatures were observed below 15 degrees Celsius in the summer months, and it was observed to be below zero degrees Celsius from November to April. Looking at the monthly maximum temperature values for many years, the highest temperatures were observed between 15-20 degrees in the winter months and above 35 degrees in the summer months.

According to the official statistics of GDM, the long years of the lowest temperature, average temperature and maximum temperature of Tekirdağ province are given in Figure 51.

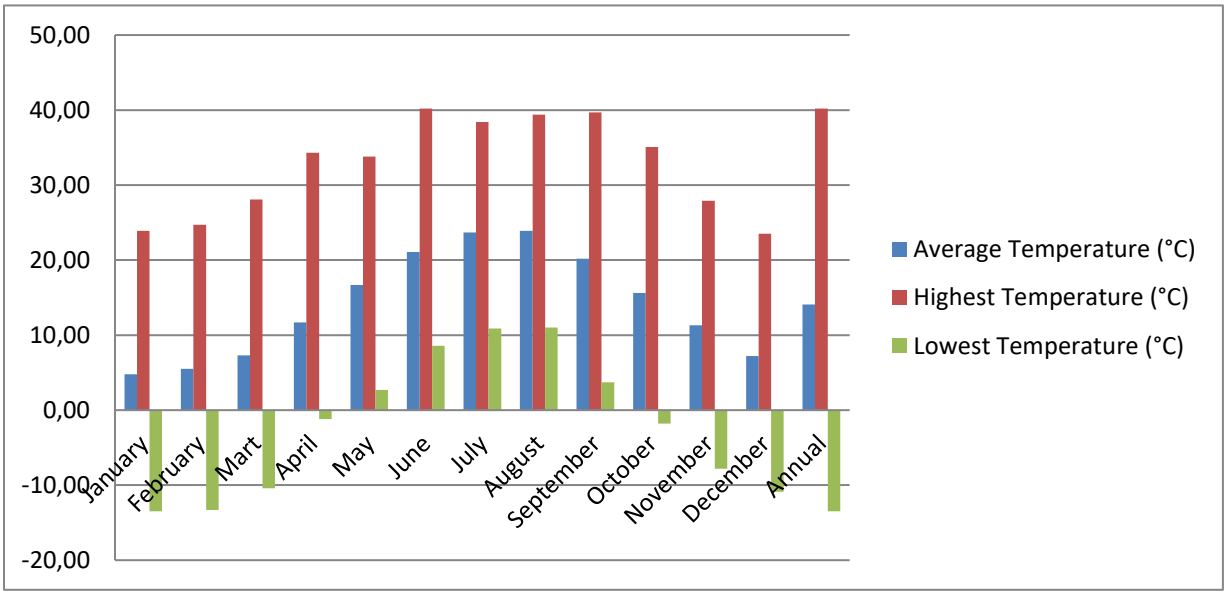


Figure 51 . Long-Term Average of the Lowest, Average and Highest Temperature Values for Tekirdağ Province (1940-2022)

According to the official statistics of GDM, the long-term averages of the lowest temperature, average temperature and maximum temperature of Edirne Province are given in Figure 52 .

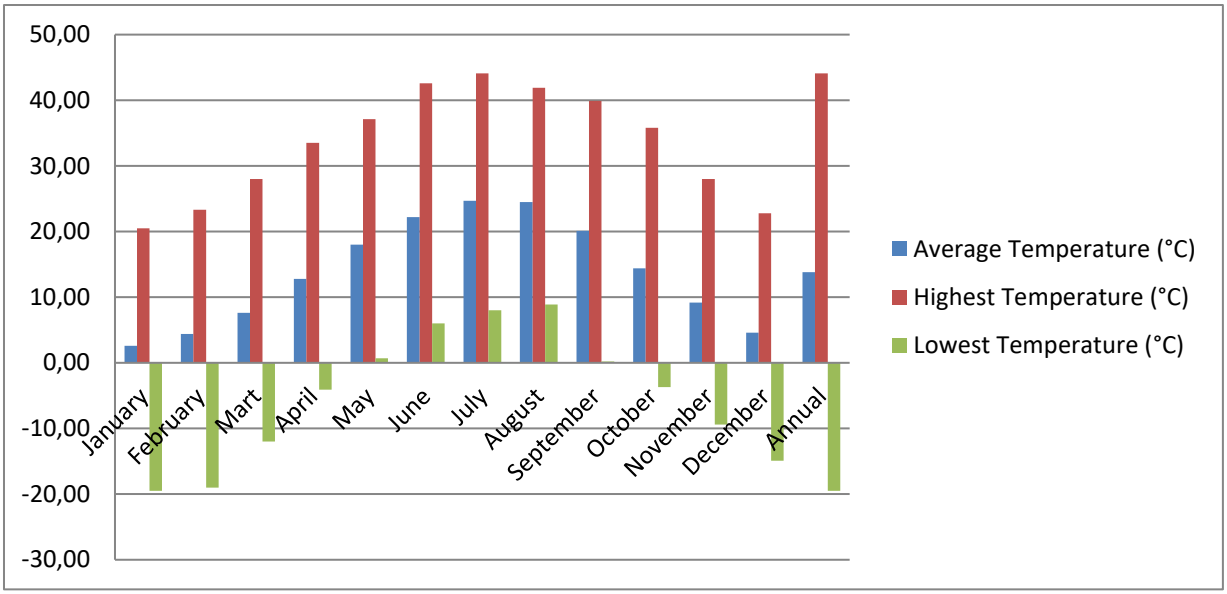


Figure 52 . Lowest, Average and Highest Temperature Values of Edirne Province Long Term Average (1930-2022)

According to the official statistics of GDM, the long-term averages of the lowest temperature, average temperature and maximum temperature of Kırklareli province are given in Figure 53 .

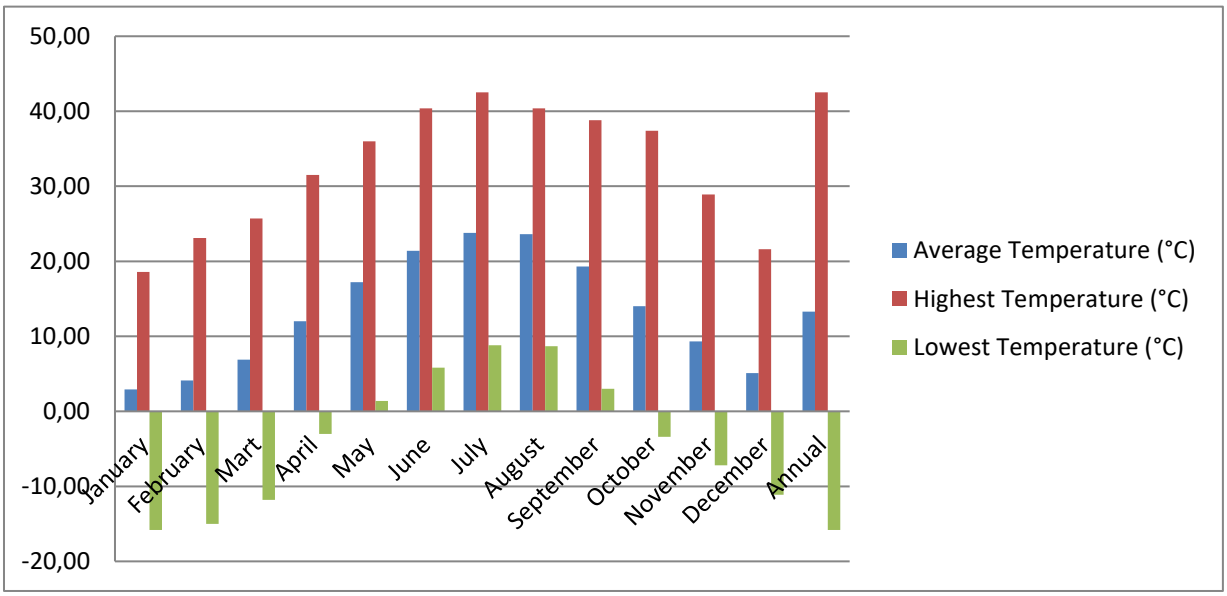


Figure 53 . Lowest, Average and Highest Temperature Values of Kırklareli Province Long Years Average (1959-2022)

The temperature maps prepared from meteorological data are given in Figure 54.

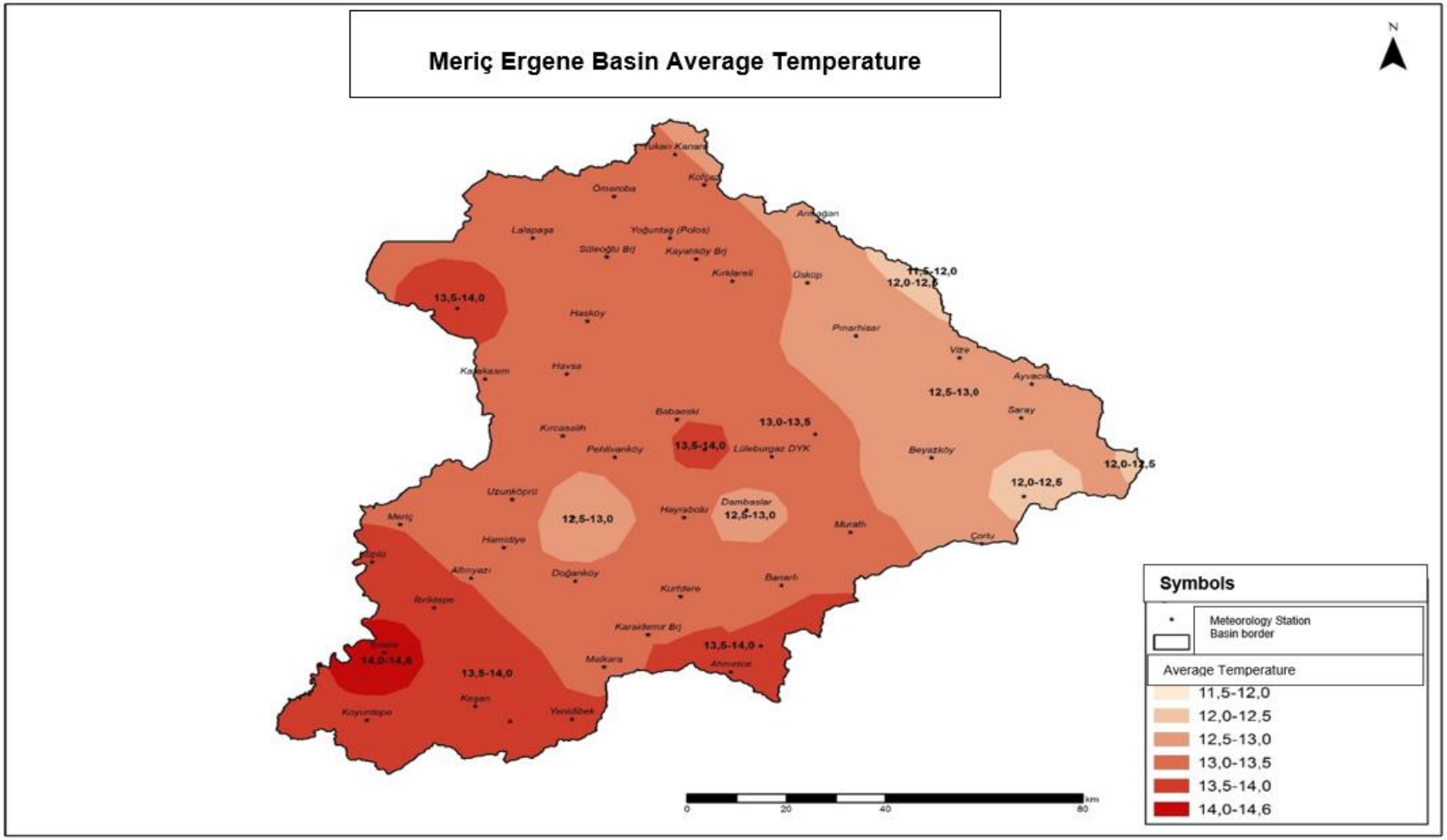


Figure 54 .Meriç Ergene Basin Average Temperatures

3.1.9.4. Wind

Looking at the monthly average wind speeds measured at the MOSs in the project area, it is observed that the highest value is observed in winter months. It is observed that higher wind speeds are observed in the south of the basin.

3.1.9.5. Relative Humidity

Looking at the monthly average relative humidity values of the MOSs in and around the Project area for many years, it is observed that the relative humidity is low in July and August and high in winter. It is observed that there is partially more humidity in the regions of the Project area close to the Istanbul border and the Aegean Sea.

3.1.9.6. Evaporation

According to the data obtained from five MOSs where evaporation measurements were made in and around the project area, the highest evaporation values were observed in July in all stations. The lowest evaporation values are recorded in winter months.

3.1.9.7. Sunbathing

According to the official statistics of GDM, the average insolation time of Tekirdağ province for many years is given in Figure 55 .

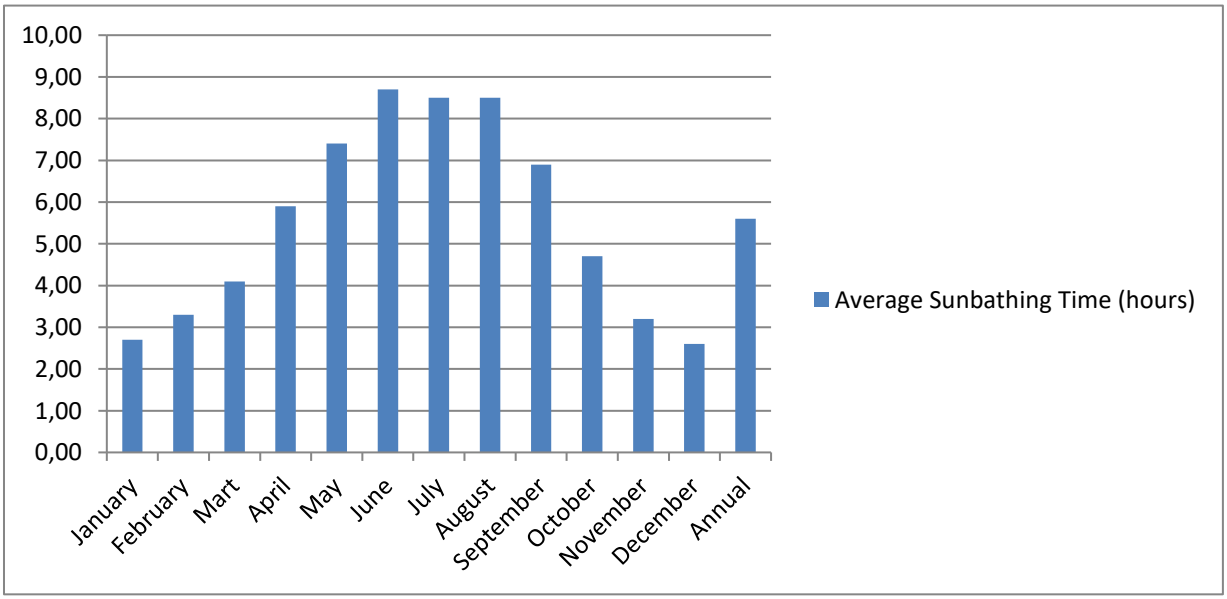


Figure 55 . Long Years Average Insolation Time for Tekirdağ Province (1940-2022)

According to the official statistics of GDM, the average insolation time for Edirne Province for many years is given in Figure 56 .

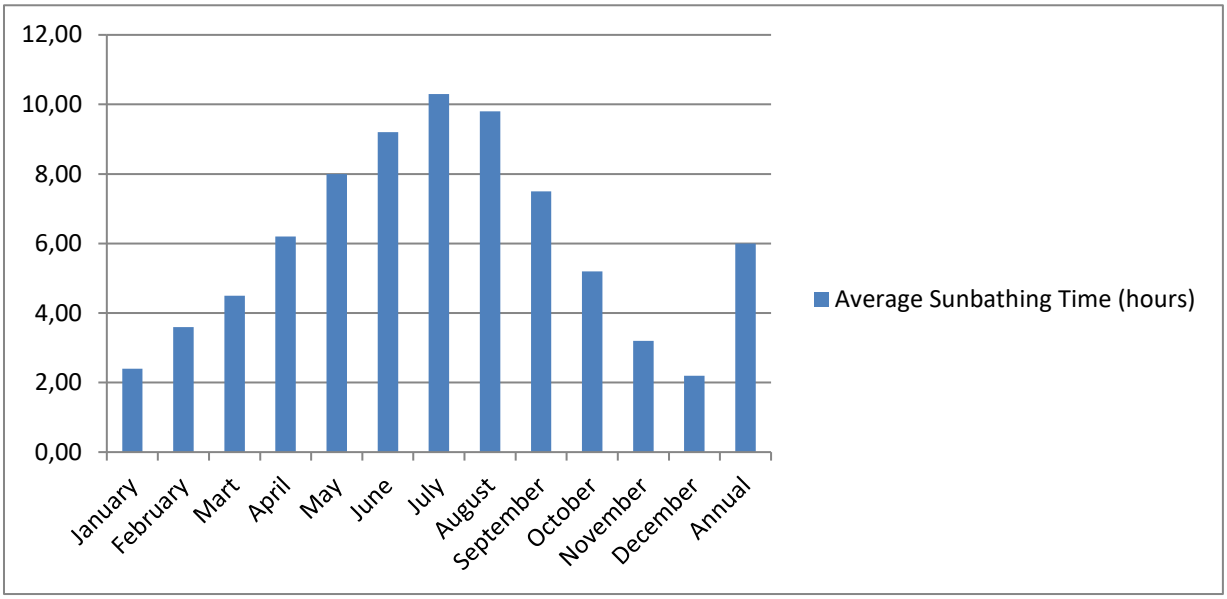


Figure 56 . Long-term Average Insolation Time for Edirne Province (1930-2022)

According to the official statistics of GDM, the average insolation time of Kırklareli province for many years is given in Figure 57 .

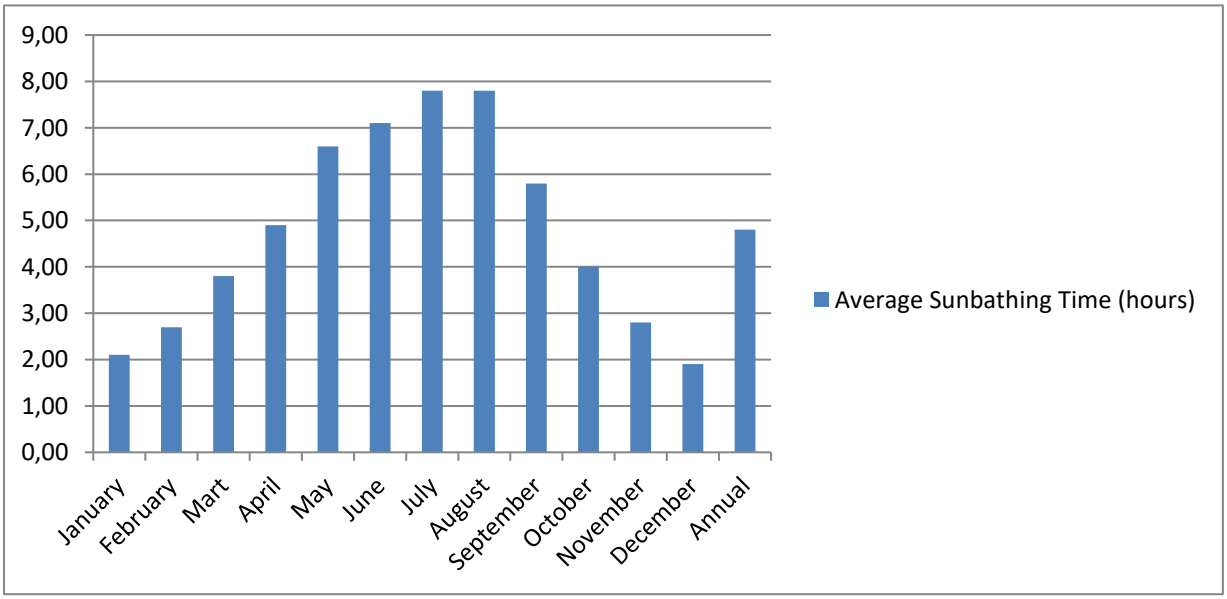


Figure 57 . Long Years Average Insolation Time for Kırklareli Province (1959-2022)

According to the graphs in Figure 55, Figure 56, and Figure 57, the highest solar radiation value is observed in June and July and the lowest solar radiation value is observed in December in the provinces covering the Meriç-Ergene basin.

3.1.10.Demographic Structure and Socio Economic Status

The Meriç-Ergene Basin, located in the Thrace region of Türkiye, draws attention as an area where important agricultural and industrial activities are carried out. Meriç River and Ergene River are the main water resources of the basin and have enabled the region to assume a strategic role in terms of agriculture, industry and settlement. The demographic structure of the basin has been shaped especially by the agricultural and industrial sectors and a large part of the population of the region is employed in these sectors. At the same time, the fact that the region is located on the border line shows that it is in a special position in terms of cultural and commercial interactions.

In this section, the population structure of the Meriç-Ergene Basin, basic demographic indicators such as age and gender, as well as information on education, health, agriculture, animal husbandry, industry and mining, tourism and transport, culture and tourism are described.

3.1.11.Education

Data on educational services in Edirne, Kırklareli and Tekirdağ provinces located in the Meriç-Ergene Basin were obtained from the provincial Directorates of National Education. These data are presented in Table 28[5].

Table 28 . Education Service Data in the Basin, 2024

Education Service	Edirne	Kırklareli	Tekirdağ
Number of Schools / Institutions	415	391	989
Number of Classrooms	3,360	3,036	7,713
Number of Teachers	4,203	4,234	13,384
Number of Students	56,616	55,120	212,270
Number of Students per Classroom			
Primary and Secondary School	15	17	30
General Secondary Education	17	18	25
Vocational and Technical	13	22	20

Data on education services in Edirne, Kırklareli and Tekirdağ show that Tekirdağ has more schools, classrooms, teachers and students. Although the educational infrastructure in Tekirdağ is much larger than in other provinces, the number of students per classroom is also higher. In particular, classes are more crowded in Tekirdağ and the number of students per classroom is lower in Edirne.

According to the data obtained from TURKSTAT, the education statistics of the population in Edirne, Kırklareli and Tekirdağ are given below.

[5] Source: https://kirklareli.meb.gov.tr/

Table 29 .Education Statistics

Level of Education Completed	Year	Edirne	Kırklareli	Tekirdağ
Unknown	2023	1576	1182	3771
PhD	2023	1774	840	1935
High School and Equivalent Vocational School	2023	96072	91593	266531
Literate but did not finish a school	2023	26703	22346	90821
Illiterate	2023	7254	4865	13810
Secondary School or Equivalent Vocational Secondary School	2023	56832	52659	194804
Master's Degree (Including 5 or 6 Year Faculties)	2023	7456	5546	15789
School or Faculty	2023	61312	57652	159286
Primary School	2023	105236	88355	234610
Primary education	2023	26058	27420	90934

According to 2023 data, the most common education level in Edirne, Kırklareli and Tekirdağ provinces is high school and equivalent vocational school graduates. Tekirdağ stands out in this field with a total of 266,531 high school graduates. The number of primary school graduates is also high with 234,610 in Tekirdağ, 105,236 in Edirne and 88,355 in Kırklareli. Tekirdağ has the highest number of those who can read and write but have not completed a school and illiterates. At the higher education level, the number of doctorate graduates in Tekirdağ is 1,935 and the number of master's degree graduates is 15,789.

3.1.12.Economic Situation

Gross domestic product (GDP) data per capita is considered as a strong indicator to represent the economic size and individual welfare of a province. In this context, the data for the provinces of the region are given belowTable 30 . Accordingly, GDP per capita value has increased from 2012 to 2021 in all provinces of the region. Tekirdağ draws attention as the province with the highest GDP per capita. Tekirdağ is followed by Kırklareli and Edirne provinces respectively.

Table 30 . GDP per capita data for 2012-2021

Provinces	2012	2015	2019	2021
Edirne	18,429	25,272	44,066	68,374
Kırklareli	22,461	32,094	57,159	96,745
Tekirdağ	27,660	38,916	70,756	132,803

The labour force statistics of the population over 15 years of age in Türkiye and TR21 region (Tekirdağ, Edirne, Kırklareli) for 2023 are as given in Table 31 . The population not included in the labour force in TR21 region is 632 thousand people.

Table 31 . Türkiye-wide Labour Force Statistics (2022)

IBBS	Employment (Thousand)	Employment Rate (%)	Labour Force (Thousand)	Labour Force Participation Rate (%)	Unemployed (Thousand)	Unemployment Rate (%)
Türkiye	31,632	48.3	34,896	53.3	3,261	9.4
TR21	841	54.5	911	59	69	7.6

According to the socio-development ranking research updated by the Ministry of Development in 2011, Edirne rose in the ranking and ranked 12th. Kırklareli ranked 15th and Tekirdağ ranked 9th.

The branches of economic activity are listed as services sector, industry sector and agriculture sector. According to the data obtained from TURKSTAT, 13.3% of the employed population in TR21 Region in 2023 was in the agricultural sector, 39% in the industrial sector and 47.8% in the services sector. The percentage distribution of sectors by gender is given below.

Table 32. Percentage Distribution of Sectors by Gender

Gender	Sector		
	Agriculture (%)	Industry (%)	Service (%)
Woman	13.5	34.8	51.7
Male	13.1	41.1	45.8

According to the data, 51.7% of female employees are employed in the service sector, 34.8% in industry and 13.5% in agriculture. On the other hand, 45.8% of male employees work in the service sector, 41.1% in industry and 13.1% in agriculture. This distribution shows that women are mostly concentrated in the service sector and men in the industrial sector.

3.1.13.Foreign Trade

TR21 region has a strategic role in Türkiye's foreign trade and acts as a bridge especially in trade relations with Europe. The fact that agriculture, industry and logistics activities are strong in the region increases the volume of foreign trade and contributes significantly to the economic development of the region. TR21 region is the connection point of Türkiye with Europe. Bordering Bulgaria and Greece, this region has a strategic importance in land and maritime transport. This facilitates exports especially to the European Union countries.

While Tekirdağ stands out with its organised industrial zones and ports, agriculture-based industry and food production are more common in Edirne and Kırklareli. These regions export agricultural products, food processing, textiles and chemicals. Tekirdağ Port plays an important role in the foreign trade of the region. This port and the logistics network around it provide great convenience in the realisation of both exports and imports.

Among the export items of the region, agricultural products (wheat, sunflower), food products, textile and chemical products stand out. In addition, industrial facilities in the region, especially around Tekirdağ, contribute significantly to the export of high value-added products such as machinery and automotive sub-industry products. Imports are mostly concentrated on industrial raw materials and energy. In order to meet the raw material needs of the regional industry, especially chemicals, energy resources and machine parts are imported.

Total import and export values of the basin provinces in 2023 are given in Table 33 .

Table 33 . Total Import and Export Values of Basin Provinces in 2023 (TURKSTAT, Foreign Trade Data, 2023)

Provinces	Total Imports (thousand $)	Total Exports (thousand $)
Kirklareli	**187.605**	**359.161**
Edirne	**152.298**	**105.124**
Tekirdag	**3,047.694**	**3,125.566**

When the foreign trade data of TR21 region are analysed, significant differences are observed among the provinces. Kırklareli province exports 359,161 thousand dollars and imports 187,605 thousand dollars, giving a foreign trade surplus of 171,556 thousand dollars. Tekirdağ is the province with the highest trade volume in the region and provides a foreign trade surplus of 77,872 thousand dollars with exports of 3,125,566 thousand dollars and imports of 3,047,694 thousand dollars. On the other hand, Edirne province exports 105,124 thousand dollars and imports 152,298 thousand dollars, giving a foreign trade deficit of 47,174 thousand dollars. In the light of these data, it is seen that while Kırklareli and Tekirdağ provinces provide foreign trade surplus, imports exceed exports in Edirne province.

3.1.14.Agriculture and Livestock

TR21 Region is an important region of Türkiye in terms of agricultural production. The fertile soils and favourable climatic conditions of the region support the production of basic agricultural products such as wheat, sunflower, corn and sugar beet as well as grapes, olives, fruits and vegetables. Livestock and dairy production is also an important economic activity, especially in Edirne and Kırklareli provinces. However, since the employment opportunities that the agricultural sector can create are limited, there is a migration from the western and inner parts of the region towards industrial areas. Therefore, a change from agriculture to industry and service sectors is observed within the region.

The Meriç and Ergene rivers are of vital importance for the sustainability of agricultural activities in the region. The Meriç River meets the irrigation needs of Edirne and increases agricultural productivity. Ergene River has a great importance in agricultural production by extending through Tekirdağ and Kırklareli.

The total agricultural areas (decares) of the provinces in the basin are given below Table 34 .

Table 34 . Total Agricultural Areas (Decare) of the Provinces in the Basin (TURKSTAT, Agricultural Statistics, 2023)

Provinces	Total Agricultural Area (decare)	Proportioned Agricultural Area in the Basin (decare)
Edirne	3,454,629	1,274,413
Kırklareli	2,495,055	920,426
Tekirdağ	4,153,458	1,532,211
Türkiye	**388,550,000**	

According to the agricultural areas data of TR21 Region provinces, there are significant differences between total agricultural areas and basin-based proportioned agricultural areas. In Edirne, 1,274,413 decares of the total agricultural area of 3,454,629 decares is located within the basin. In Kırklareli, 920,426 decares of the 2,495,055 decares of agricultural area is proportioned to the basin. In Tekirdağ, 1,532,211 decares of the 4,153,458 decares of agricultural area is within the basin. These data show that some of the agricultural areas of the provinces are evaluated within the scope of catchment management. Agricultural areas within the basin have a critical importance in terms of sustainable management of water resources and agricultural activities. There are 388,550,000 decares of agricultural areas in Türkiye and basin management is analysed only on a regional basis.

The amounts of agricultural products produced in the basin according to the proportioned agricultural areas in the basin are given in Table 35 .

Table 35 .Amount of Agricultural Products Produced in the Basin (Tonnes) (TurkStat, Agricultural Statistics, 2023)

Agriculture Products	Edirne	Kırklareli	Tekirdağ
Cereals and Other Vegetable Products	17,941	8,466	15,382
Fruit, Beverage and Spice Plants	219	127	783
Vegetable	882	233	643
Total	19,042	8,826	16,808

According to these data, Edirne is the leader in the region in cereals and other vegetable products. Tekirdağ stands out in fruit and vegetable production. Kırklareli remains at the lowest level in terms of total agricultural production but has a significant potential in terms of cereals.

Livestock breeding activities in TR21 Region have an important place in terms of the economic structure and agricultural potential of the region. The fertile agricultural lands of Edirne, Kırklareli and Tekirdağ provinces support the production of fodder crops required for animal husbandry and this contributes to the development of the animal husbandry sector.

Edirne province stands out as an important centre especially in terms of cattle breeding. Animal husbandry and milk production constitute an important component of agricultural activities in the province and contribute to the economic development of the region. Moreover, Edirne's geographical location and transport networks facilitate the marketing of animal products.

Kırklareli province has a strong potential in ovine breeding. The pastures in Kırklareli offer suitable areas for small ruminants and create significant opportunities for local producers. At the same time, products from animal production are in demand in local markets and across Türkiye, which increases economic activity in the region.

Tekirdağ province is also in a remarkable position in terms of animal husbandry activities. In the province, where both bovine and ovine breeding is carried out, the production of meat and dairy products has an important place and these products are in demand in both local and national markets. Tekirdağ's developed agricultural infrastructure supports the growth of the livestock sector, and there are also various facilities for the processing of animal products. The livestock presence in the region is given in Table 36 .

Table 36 .Animal Assets in the Region (TurkStat, Livestock Statistics, 2022)

	Number of Bovine Animals	Number of Small Bovine Animals	Number of Poultry	Number of Beekeeping Enterprises-2022
Edirne	156,223	419,839	293.540	836
Kırklareli	154,231	400,742	191.010	978
Tekirdağ	148,629	350,543	270.800	1,178

3.1.15.Mining

In TR21 Region, mining activities stand out as an important economic activity in Kırklareli, Tekirdağ and Edirne provinces.

In Kırklareli province, lignite coal is mined around Akören and Poyralı villages of Pınarhisar district and marble deposits in these villages are also actively operated. The region has a rich

potential in terms of metallic materials such as molybdenum, iron, gold and copper. There are also industrial raw materials such as dolomite limestone and clay. Dolomite limestone and limestone production is utilised by glass, cement and lime factories. However, iron and feldspar deposits, which have high reserves, are not operated economically due to their low tenor. Some mines have been exploited occasionally, but are currently abandoned. Small amounts of natural gas and oil are extracted by the Turkish Petroleum Corporation (TPAO).

In Tekirdağ province, the "Plan for the Restoration of Lands Degraded by Mining Activities" has been implemented since 2010. This plan aims to restore the areas degraded as a result of mining activities to nature and covers various improvement activities. In this context, correction of the degradation caused by excavations, castings and wastes left to the nature, soil paving, sowing seeds, planting saplings, creating recreation areas, planting and afforestation operations are included.

Similar to Tekirdağ, Edirne province also carries out activities to restore the lands degraded as a result of mining activities to nature. Such activities have an important place both in terms of environmental protection and in line with sustainable development goals.

3.1.16.Industry

Edirne

In 2021, Edirne province has a total of 1067.3 hectares of industrial area, of which 318.5 hectares are in organised industrial zones (OIZ), 75.8 hectares in industrial estates (SS) and 673 hectares outside planned industrial areas. According to the data of the Industrial Registry Information System (IRIS), in 2021, there are 379 industrial enterprises in Edirne, 23 of which are in OIZs, 43 in industrial estates and 313 outside the planned industrial areas. Of these enterprises, 10.29% operate in mining, 88.65% in manufacturing and 1.06% in energy sector.

When the sectoral distribution of industrial enterprises in Edirne is analysed, 43.27% of enterprises operate in the manufacture of food products, 7.12% in the manufacture of clothing and 6.86% in the manufacture of other non-metallic mineral products. In 2021, a total of 17,102 people were employed in the industrial sector in the province. In the distribution of employment, clothing manufacturing with 47.05%, food products manufacturing with 16.61% and textile products manufacturing with 9.48% take the first three places.

A total of 275 incentive certificates were granted to Edirne in the 2001-2021 period; 12 of these certificates were issued with foreign capital and 263 with domestic capital. In Türkiye, 0.25% of the incentive certificates with foreign capital, 0.3% of the incentive certificates with domestic capital and 0.3% of the total incentive certificates were granted to Edirne province. On a sectoral basis, the share of the incentive certificates granted in Türkiye in Edirne province was 0.13% in agriculture, 0.26% in mining, 0.2% in manufacturing, 0.27% in energy and 0.62% in services[6].

Kırklareli

[6]Source: Edirne Province Industry Status Report https://www.sanayi.gov.tr/plan-program-raporlar-ve-yayinlar/81-il-sanayi-durum-raporlari/mu2708011628

In 2021, there are 1,262.6 hectares of industrial areas in Kırklareli province, of which 1,211 hectares are organised industrial zones (OIZ) and 51.6 hectares are industrial sites (SS). According to the Industrial Registry Information System (IRIS) records, in the same year, a total of 760 industrial enterprises, 67 of which are in OIZs, 188 of which are in industrial estates and 505 of which are outside the planned industrial areas, are operating in the province. Of these enterprises, 6.71% operate in mining, 91.71% in manufacturing and 1.58% in energy sector. In addition, 50 new enterprises were registered in SSBS in 2021, while the registration of 35 enterprises was cancelled. Among the industrial enterprises operating in the province, 11 have foreign capital, and these enterprises have France (4), Germany (2), Austria (2), Azerbaijan (1), the Netherlands (1) and Saudi Arabia (1) capital.

In 2021, a total of 34,504 people were employed in the industrial sector in Kırklareli province. Of this employment, 1.42% was in mining, 97.39% in manufacturing and 1.19% in energy sector. When the sectoral distribution of industrial enterprises in Kırklareli province is analysed, the first sub-sector is the manufacture of food products with 30.13%, the second is the manufacture of furniture with 10.53% and the third is the manufacture of other non-metallic mineral products with 6.97%.

Between 2001-2021, a total of 533 incentive certificates were granted to Kırklareli province; 58 of these certificates were issued with foreign capital and 475 with domestic capital. Kırklareli province accounts for 1.21% of the incentive certificates with foreign capital, 0.54% of the incentive certificates with domestic capital and 0.58% of the total incentive certificates. The sectoral distribution of the incentive certificates granted to Kırklareli province has been analysed in comparison with Türkiye in general. According to these analyses, 1.62% of the incentive certificates in the agriculture sector, 0.22% in the mining sector, 0.57% in the manufacturing sector, 0.49% in the energy sector and 0.48% in the service sector were granted to Kırklareli province[7].

Tekirdağ

Tekirdağ province has an important potential for industrial development due to its land, air, sea and railway transport facilities, strong ports, proximity to Istanbul and being a transit point to Europe. The province has reached a strong industrial infrastructure with the cultivation of agricultural products (wheat, sunflower, etc.) that can be raw materials for industry in its fertile lands, rich underground water resources, educated labour force and incentives. The first industrial enterprises in Tekirdağ were those processing agricultural products and consisted of oil, flour, paddy, feed, wine and raki factories and dairies.

As of 2021, Tekirdağ has approximately 3,000 industrial facilities, 15 organised industrial zones (13 of which are active), 686 medium and large-scale industrial enterprises, 53 R&D and 15 design centres. In addition, the province hosts 123 foreign-capitalised facilities from 31 countries. Foreign-capitalised enterprises employ 26,174 people, and these enterprises provide 15.1 per cent of the industrial employment in the province. The countries with the highest number of foreign facilities are Germany (32 facilities), the Netherlands (14 facilities) and Italy (8 facilities).

In 2021, Tekirdağ has a total of 7,613.24 hectares of industrial area, of which 5,639.84 hectares are OIZ, 226 hectares are industrial estates and 1,747.40 hectares are individual industrial

[7] Bibliography: Kırklareli Industry Status Report: https://www.sanayi.gov.tr/plan-program-raporlar-ve-yayinlar/81-il-sanayi-durum-raporlari/mu2708011650

areas. There is also a 200 hectare European Free Zone. According to the Industrial Registry Information System (IRIS), in 2021, a total of 2,821 industrial enterprises were operating in Tekirdağ, of which 1,040 in OIZs, 497 in industrial estates and 1,284 outside the planned industrial areas. Of these enterprises, 2.73% are in mining, 96.53% in manufacturing and 0.74% in energy sector.

In 2021, a total of 183,039 people were employed in industry in Tekirdağ. 28.11% of employment was in the manufacture of textile products, 10.03% in the manufacture of clothing and 9.29% in the manufacture of electrical equipment. [8]

3.1.17.Health

TR21 Region has a developing structure in terms of health sector. Various steps have been taken to improve health services, strengthen the health infrastructure and increase the capacity of health workers in the region. Public and private hospitals, family health centres, medical centres and other health institutions provide services in all three provinces. Especially Tekirdağ is in an important position in health services due to its population density and proximity to industrial centres. Public hospitals are widespread in the region and there is at least one large public hospital in each province. In addition, university hospitals such as Tekirdağ Namık Kemal University Faculty of Medicine Hospital also provide services in the region. These hospitals provide advanced health services to the people of the region. According to TURKSTAT 2022 data, province-based health sector data Table 37.

Table 37 . Health Sector Data (TurkStat, Health Statistics, 2022)

Data	Edirne	Kırklareli	Tekirdağ
Number of Hospitals	4	2	2
Number of Hospital Beds	11	10	20
Total Number of Physicians Per Capita	1936	1013	3223

When the data on the health services of Edirne, Kırklareli and Tekirdağ provinces are analysed, significant differences are observed in terms of the distribution and capacity of the health infrastructure in the region. While there are 4 hospitals in Edirne, there are 2 hospitals each in Kırklareli and Tekirdağ. This shows that access to hospitals is higher in Edirne compared to other provinces. Tekirdağ draws attention with only 2 hospitals considering its industrial structure and population density. In terms of hospital bed capacities, Tekirdağ has the highest capacity with 20 beds, while Edirne and Kırklareli have 11 and 10 beds, respectively.

In terms of the total number of physicians per capita, Tekirdağ has the highest rate with 3223 physicians and this situation offers an important advantage in terms of the efficiency of health services. While the number of physicians per capita in Edirne is 1936, this number is 1013 in Kırklareli. It is observed that Kırklareli is at a lower level compared to other provinces in terms of both the number of physicians and hospital capacity. These data show that Tekirdağ has a stronger structure in terms of health personnel, but the low number of hospitals may limit this advantage. Kırklareli, on the other hand, may experience more difficulties in accessing health services due to the insufficient health infrastructure.

[8] Bibliography: Tekirdağ Industry Status Report: https://www.sanayi.gov.tr/plan-program-raporlar-ve-yayinlar/81-il-sanayi-durum-raporlari/mu2603011673

The number of health personnel of the provinces in the basin is given below.

Table 38. Number of Health Personnel in the Provinces in the Basin (TurkStat, Health Statistics, 2022)

Health Personnel	Edirne	Kırklareli	Tekirdağ
Specialist Physician	558	355	971
General Practitioner	306	278	660
Assistant Physician	580	0	254
Dentist	206	142	467
Nurse	1655	928	2628
Midwife	391	317	705
Pharmacist	221	173	430
Other Health Personnel	1400	938	2604

When the health personnel data of Edirne, Kırklareli and Tekirdağ provinces are analysed, significant differences are observed in the distribution of personnel. Tekirdağ has the highest number of specialised physicians, general practitioners, dentists, nurses, midwives, pharmacists and other health personnel. In particular, having 971 specialised physicians and 660 general practitioners shows that health services in the province are provided with a larger staff. In addition, there are 2628 nurses and 2604 other health personnel in Tekirdağ, indicating that health services in this province are more advantageous in terms of labour force.

Edirne draws attention with 558 specialised physicians, 306 general practitioners and 580 assistant physicians. In addition, there are 1655 nurses and 1400 other health personnel in the province, indicating that Edirne has a strong health infrastructure. Kırklareli has a lower number of health personnel compared to the other two provinces. Health services are provided by 355 specialised physicians, 278 general practitioners and 142 dentists. These data show that Kırklareli is insufficient in terms of health personnel and may be in a disadvantaged position in terms of access to health services.

3.1.1. Historical and Cultural Heritage

Edirne

It is known that the coastal areas bordering the districts of Keşan and Enez in the province of Edirne are intensively used especially in the summer period (May - September), and it is known that an increasing number of domestic and foreign tourists have been visiting the region for tourism purposes in recent years, as the beaches attract the attention of daily holidaymakers as well as those staying in the summer holiday sites in these regions.

In Enez district; Altınkum, Vakıf, Sultaniçe, Gülçavuş, Büyükevren and Karaincirli, in Keşan district Yayla, Erikli, Mecidiye, Danişment, Gökçetepe and Sazlıdere stand out as holiday

regions where holidaymakers are intensely interested. The main touristic areas in Edirne region are as follows[9].

- Located in Enez and Ipsala districts of Edirne province, Lake Gala National Park, which was declared as the 36th National Park of Türkiye with the Decree of the Council of Ministers numbered 2005/8547 published in the Official Gazette dated 05.03.2005, consists of 5.923,49 ha area.
- Gökçetepe Nature Park is located 28 km south of Keşan district centre of Edirne province, within the borders of Gökçetepe village, on the coast of Saroz Bay. It has a 3.5 km long beach and 6 unique bays.
- Danişment Nature Park is located on the coast of Saroz Bay within the borders of Danişment village, 34 km south of Keşan district centre in Edirne province.
- Vakıf Nature Park is located on the coast of Saroz Bay within the borders of Vakıf village, 18 km southeast of Enez district centre in Edirne province. The 26.78 ha site is located on the coast of Vakıf village and is 2.5 km from Vakıf Tuzla Lagoon.

Other areas designated as nature reserves and nature conservation areas, although not directly for touristic purposes, are as follows:

- Edirne Centre - Eğribük Basin Qualified Natural Protection Area
- Edirne Centre Sarayiçi Chicken Forest Qualified Natural Protection Area and Sustainable Conservation and Controlled Use Area
- Edirne Centre Asker söğütlüğü Qualified Natural Protected Area
- Edirne Centre Pazarkule 2nd Degree Natural Protected Area
- Edirne Centre Karaağaç City Forest Qualified Natural Protection Area
- Edirne Centre Karaağaç Ancient Road Qualified Natural Protection Area
- Edirne Centre Topsöğüt Qualified Natural Protected Area
- Edirne Meriç Nasuhbey Village Tekke Bayırı Qualified Natural Protection Area and Sustainable Conservation and Controlled Use Area
- Edirne Enez-Ipsala Lake Gala National Park Qualified Natural Protected Area
- Edirne Enez Dalyan Taşaltı Lakes 1st, 2nd Degree Trapeze 3rd Degree Natural Protected Area
- Edirne Enez Sultaniçe-Gülçavuş Villages 3rd Degree Natural Protected Area
- Edirne Enez Gülçavuş-Büyükevren Villages 3rd Degree Natural Protected Area
- Edirne Enez Büyükevren Village 3rd Degree Natural Protected Area
- Edirne Enez Vakıf Village 3rd Degree Natural Protected Area (Vakıf-1, Vakıf-2, Vakıf-3, Vakıf-4)
- Edirne Enez Karaincirli Village 3rd Degree Natural Protected Area
- Edirne Keşan Yayla Village Sustainable Conservation and Controlled Use Area
- Edirne Keşan Danişment Village Sustainable Conservation and Controlled Use Area
- Edirne Keşan Erikli Village Sustainable Conservation and Controlled Use Area
- Edirne Keşan Mecidiye Village 1st Degree Natural Protected Area (Uzunkum-Italian Bay)
- Edirne Keşan Mecidiye Village 3rd Degree Natural Protected Area (Babadeğirmeni)
- Saros Bay 1st Degree Natural Protected Area

The museums in Edirne are listed as follows

- Fatih Sultan Mehmet Museum
- Necmi İğe House Ethnography Museum

[9] Bibliography: Edirne Governorship : http://www.edirne.gov.tr/sehrimiz

- Hasan Ali Yücel Children Museum
- Uzunköprü City Museum
- Hıdırlık Bastion Balkan History Museum
- Private Osman Inci Museum
- Edirne City Museum
- İlhan Koman Painting and Sculpture Museum
- Selimiye Foundation Museum
- Balkan Museum
- National Struggle and Lausanne Museum
- Sultan Bayezid II Complex Health Museum
- Museum of Turkish Islamic Art
- Edirne Museum
- Edirne Archaeological and Ethnographic Museum

According to the month-based visitation statistics of the museums in the given list, according to the current data of August 2023, the total number of visitors is 78,452 people and the highest number of visitors belongs to Selimiye Foundation Museum (19,250 people).

The total number of immovable cultural assets in the province of Edirne is 1,354. The number of archaeological sites, urban, historical and urban archaeological sites is 308 (see Table 39)

Table 39 . Edirne Cultural Assets

Protected Area and Mixed Protected Area	Type	Number
Protected Areas	Archaeological Site	301
	Urban Conservation Area	3
	Historical Site	1
	Total	305
Mixed Protected Areas	Archaeological and Urban Protected Area	1
	Historical and Urban Conservation Area	2
	Total	308

Kırklareli

Kırklareli has approximately 60 km of natural beaches, rocks and marshes. The most important beaches, which are all located on the Black Sea coast and are still preferred by local and foreign tourists, are Kıyıköy, İğneada and Kasatura.

Dupnisa Cave, which is a wetland, is one of the important cave ecosystems in Kırklareli. Formed 180 million years ago, the caves, which developed in marbles, consist of two floors and three interconnected caves. Kuru and Kız caves form the upper floor of the system with a total length of 2.720 meters 115. Kız Cave is completely closed to tourism due to the density of bats living in it. 250 meters of the watery cave and 200 meters of the Kuru Cave are open to tourism. Kuru Cave, where there are no bats, is open to tourism for 12 months of the year.

İğneada Longaz Forests National Park was declared as the 39th National Park of our country by combining the protected areas, which previously had various statuses such as Nature Conservation Area, Natural Site, Wildlife Protection Area and were located in separate parts, under the umbrella of a national park in a wider area.

In the Central District; archaeological excavation sites dating back to 8.200 years ago, Hızırbey Complex, military bastions, fountains, Babaeski District; Cedit Ali Pasha Mosque and Bridge, Demirköy District; Fatih Iron Foundry, Kofçaz District; Tumuli and Dolmens, Lüleburgaz District; Sokollu Mehmet Pasha Complex, Zindan Baba Tomb, Tumuli, Pehlivanköy District; Station Building, Akarca Bridge, Tumuli, Pınarhisar District; Castle, fountains, Tumuli, Vize District; Small Hagia Sophia Church (Gazi Süleyman Pasha Mosque), Vize Castle, Amphitheatre, Fountains, Tumuli, Kıyıköy Aya Nıkola Monastery and Kıyıköy castle.

According to the data on the number and surface area of Kırklareli protected areas, the total number of protected areas is 463 and the total number of monuments is 480 (see Table 40).

Table 40 . Cultural Assets of Kırklareli

Protected Areas and Monuments	Type	Number
Protected Areas	Archaeological Site	442
	Urban Conservation Area	3
	Historical Site	4
	Natural Protected Area	14
	Total	**463**
Monumental artefact	Military Structure	16
	Religious and Cultural Structure	204
	Administrative Structure	68
	Civil Architecture Example	190
	Industrial Building	2
	Total	**480**

Tekirdağ

Every year in June, events lasting an average of 1 week are organised under the name of Tekirdağ Cherry Festival. The festival, which first started in 1962 under the name Cherry Cümbüşü, is now an important touristic activity for the city centre (Tekirdağ Governorship, 2022) .

A nature tourism master plan covering the years 2020-2023 has also been prepared in Tekirdağ. In this approach, the expectations of the local people are addressed, a structure is established to ensure their participation in management, and decisions are taken jointly to protect the natural values that embody the development potential of the region.

According to the Tekirdağ Tourism Statistics Report (Tekirdağ Tourism Statistics 2019 June, 2022) prepared by Tekirdağ Governorship, Tekirdağ Provincial Directorate of Culture and Tourism for the month of June 2019, the number of visitors in 2019 is 67,924 for domestic tourists and 10,878 for foreign tourists. Foreign tourists are mainly from India, Bulgaria, China, Germany and Italy.

The names of the museums in Tekirdağ are as follows (Tekirdağ Museums, 2022)

- Tekirdag Museum
- Rakoczi Museum
- Namik Kemal House
- Malkara Education and Culture Foundation Private Museum

The historical buildings in Tekirdağ are listed as follows (Tekirdağ historical buildings, 2022) :

- Remains of the walls of Hayrabolu, Malkara, Çorlu, Marmara Ereğlisi are seen, but their boundaries and sizes are not clear. Remains of castles are also seen between Semetli and Dağyenice and on the hills close to Çimendere and Gözsüz villages.
- ***Fountains;*** Tavanlı fountain, Şabanoğlu fountain, Rakoczy fountain, Soğukkuyu fountain, İskele fountain, Old Mosque fountain, Kuru fountain, Post Office fountain, Çiftlikönü square fountain, Kabakçı fountain.
- ***Mosques;*** Eski Mosque, Orta Mosque, Rüstempaşa Mosque, Sohteoğlu Mosque, Hasan Efendi Mosque, Yusuf Ağa Mosque, Mirliva Hüseyin Paşa Mosque, Süleymaniye Mosque, Ayaz Paşa Mosque, Turhanoğlu Ömer Bey Mosque, Taşoğlu Mosque,
- ***Tombs;*** Ahmed-i Sarban Tomb and Gazi Ömer Bey Tomb,
- ***Bedestens;*** Rüstempaşa Bedesten,
- ***Monuments;*** Hürriyet Monument, Martyrs Memorial Fountain, Namik Kemal Monument, Atatürk Monument.

3.2. How the existing environment will develop if the Plan is not implemented (Do Nothing)

Meriç Ergene Basin flood extent areas are given in detail in the maps prepared within the scope of the project. In these maps, the flood areas and water heights of the water bodies in the basin are detailed in Q500 and Q100 maps. When these maps are examined, the destruction of floods close to the main elements of the basin (settlements, cultural heritage areas, nature conservation areas, etc.) that may be affected in case of flooding in the basin raises concerns. In this context, if the Flood Risk Management Plan is not implemented, the current impacts are given in the sub-headings.

3.2.1. Water Resources (Surface and Underground)

If the flood management plan is not implemented, floods in the Meriç-Ergene Basin will have significant negative impacts on both surface and groundwater resources. These impacts are expected to result in deterioration of water quality, dispersion of pollutants, damage to ecosystems and serious risks in terms of water supply. Detailed assessment is given below.

Surface Water

Spread of Pollutants and Decrease in Water Quality: During floods, chemical fertilisers, pesticides, animal wastes, chemical fertilisers, pesticides, animal wastes and pollutants leaking from industrial plants will be mixed into the rivers in the basin. This will adversely affect the chemical and biological quality of surface water resources and may endanger the use of water for drinking, agricultural and industrial purposes.

Increase in Waterborne Diseases: Floods can cause sewerage systems to overflow and domestic waste to enter surface waters. While this situation creates great risks for human health, it can lead to the spread of waterborne diseases.

Negative Effects on Ecosystems: Pollutants transported to surface waters may have toxic effects on aquatic ecosystems in the basin. Pesticides and heavy metals threaten the life of aquatic organisms, especially fish species. In addition, the turbidity of water increases as a result of floods, which disrupts the ecosystem balance by preventing sunlight from reaching underwater plants.

Damage to Infrastructure and Hydrological Structures: Floods can prevent efficient management of water resources by adversely affecting structures such as dams, ponds and irrigation channels. Disruptions in agricultural irrigation systems may directly affect agricultural production in the region.

Groundwater

Leaching of Pollutants into Groundwater: Pollutants carried from the water surface during floods may reach groundwater, especially in areas with permeable soil structure, and adversely affect water quality. Nitrate, phosphate and pesticide pollution from agricultural activities can seriously jeopardise the availability of drinking water resources.

Salinisation and degradation of water resources: Floods can change the chemical composition of groundwater by disturbing the water balance in the region. Water overloading may cause groundwater to rise to the surface in some regions and cause re-contamination of these waters.

Overuse of Groundwater and Sustainability Problems: Pollution of surface water resources after flooding may cause the drinking and irrigation water needs in the region to be met mostly from groundwater resources. This situation may lead to depletion of groundwater and water scarcity in the long term.

3.2.2. Population and Human Health

Population

Damage to Settlement Areas: Floods directly affect the population living along the rivers or in low-lying areas. Inundation of houses and workplaces may lead to economic losses and cause displacement.

Migration and Socioeconomic Imbalances: Repeated flood events may accelerate migration from the region by making living conditions difficult, especially for low-income groups. This may lead to depopulation in rural areas and imbalances in terms of regional development.

Disruption of Infrastructure and Transport: Floods can destroy roads, bridges and transport networks, making it difficult for residents to access basic services. This can increase risks, especially by limiting access to emergency health services.

Human Health

Spread of Waterborne Diseases: Floods may cause contaminants to be mixed into drinking and potable water sources. The risk of spread of waterborne diseases such as typhoid, cholera, dysentery and hepatitis may increase as a result of mixing of sewage water with flood waters.

Air Quality Degradation and Respiratory Diseases: Dampness, mould growth and waste accumulation after flooding can pose serious health threats, especially for children, the elderly and individuals with chronic respiratory diseases.

Increase in Vector Borne Diseases: The prolonged stay of puddles after flooding provides a breeding ground for mosquitoes and other insects. This may increase the incidence of malaria and other vector-borne diseases.

Food Security and Nutrition Issues: Flood damage to agricultural areas may lead to a reduction in food production, posing a risk to food security. In addition, consumption of spoilt food after flooding may cause poisoning and other health problems.

At the same time, according to the Flood Risk Preliminary Assessment Report prepared for the project, direct and indirect impacts on human health are summarised and given below.

Table 41. Direct and Indirect Impacts on Human Health

Direct Impacts	
Causes	**Health Problems**
Stream flow velocity, topographical terrain features, lack of warning, sudden speed at the onset of flooding, deep flood water, landslides, risk behaviour, rock fragments carried by fast flowing water and falling trees	Injuries and drownings
Contact with water	Shock, respiratory diseases, cardiac arrest, body temperature below normal (hypothermia)
Contact with contaminated water	Wound infections, dermatitis, conjunctivitis, ear-nose-throat infections, water-borne diseases, gastrointestinal diseases
Increased physical and emotional stress	Increased susceptibility to psychological disorders and cardiovascular events
Indirect Effects	
Causes	**Health Problems**
Damage to water supply systems, sewerage systems, insufficient drinking water supply, insufficient water for sanitation	Water-borne infections (Enterogenic E.coli, Shigella, Hepatitis A, Lestospirosis, Giardiasis, Dermatitis, Conjunctivitis)
Disturbance in the transport system	Lack of food, disruption of emergency assistance
Damage to underground pipework, dislodgement of storage tanks, leakage from toxic waste sites, release of chemicals, damage to gas tanks that could cause fire	Acute and potential effects of chemical pollution
Stagnant water, excessive rainfall, increased proportion of vector habitat	Vector-borne diseases
Rodent infestation	Diseases that can be transmitted by rodents
Loss of social contacts, loss of work, family and friends	Psycho-social deterioration
Clean-up activities following floods	Electric shocks, injuries, skin diseases
Destruction of primary food products	Lack of food
Damage to health services	Decrease in normal health protection services and insufficient attention

3.2.3. Socio Economy

Failure to implement the Flood Risk Management Plan in the Meriç-Ergene Basin will have serious negative impacts on the socio-economic structure of the region. The problems caused by floods in terms of agriculture, industry, infrastructure, employment and economic

development will reduce the quality of life of the people and cause economic losses at regional and national scale.

- **Damage to Agricultural Areas:** Floods inundate cultivated areas, causing damage to crops and loss of yield. In addition, deterioration in soil structure may occur after flooding and agricultural production may become unsustainable in the long term.
- Decline in Soil Quality and Pollution: As a result of flood waters being carried to agricultural lands, water contaminated with industrial and domestic wastes mixes with the soil and reduces productivity. In addition, erosion caused by excessive water can lead to loss of topsoil and reduce agricultural productivity.
- Negative Impact on Animal Husbandry: Damage to feed resources, destruction of animal shelters and spread of animal diseases due to floods may cause serious economic losses for producers engaged in animal husbandry.
- Effects on Industrial Facilities and Production: Physical destruction caused by floods in industrial areas causes disruptions in production processes. Floods can stop production by making machinery and equipment in factories unusable.
- Economic Losses and Impacts on Labour Force: Damage to industrial facilities may lead to production losses and reduced employment. The unemployment of employees causes the income level in the region to decrease and economic imbalances to increase.
- Damage to Trade and Small Businesses: Floods can disrupt commercial activities and cause economic losses to small and medium-sized enterprises. Damage to market areas, disruption of the supply chain and loss of customers may adversely affect local trade.
- Destruction of Transport Networks: Damage to bridges, roads and railways due to flooding disrupts logistics activities and transport. This situation may cause a slowdown in economic activities by making it difficult to transport agricultural and industrial products.
- Damage to Water and Electricity Infrastructure: Damage caused by floods on drinking water networks and power transmission lines may cause disruption of basic services in the region. This situation negatively affects public health and makes the sustainability of economic activities difficult.
- Income Inequality and Increased Poverty: Repeated flood damages will increase economic pressure, especially on low-income and agriculture-based livelihoods. Income losses may increase poverty rates in the region.
- Forced Migration and Demographic Changes: Population living under constant flood threat may be forced to migrate to safer areas. This situation may cause demographic changes by disrupting the balance of labour force in the region.
- Increased Burden on Health Services: The spread of waterborne diseases and damage to health infrastructure after flooding increases the need for health services in the region. This may place additional financial burden on the public health system.

3.2.4. Climate Change

In case the Flood Management Plan is not implemented, the impact of climate change on water resources has been assessed according to the FRPA Report. Within the scope of this assessment, temperature and total precipitation projections until 2100 were made using HadGEM2-ES, MPI-ESM-MR and CNRM-CM5.1 models. Accordingly, when the temperature projections are analysed, the result predicted by all models for the basin in general is that there is an increasing trend in temperatures throughout the projection period and these increases will accelerate after 2060 and reach the highest levels after 2080. Differences of up to 5.3°C are expected compared to the reference period.

When the precipitation projections are analysed, while positive precipitation anomalies are dominant during the 2020-2050 period according to the reference period, low intensity negative anomalies are expected to be effective in the 2050-2070 period on the basis of both scenarios. Considering all model results, there are periods of precipitation decreases up to 15% and precipitation increases up to 20% in the basin.

During the projection period, as a result of the increase in temperature values and decrease in precipitation regime predictions of the models, it is seen that the water potential in the Meriç-Ergene Basin will be below the reference period values. During the projection period, it is understood that the water demand, which is mostly composed of irrigation and industrial water, cannot be met to a great extent and the water deficit continues to be noticeable in all periods according to all model results. Especially from 2051 onwards, all model results indicate that the water deficit will be much more noticeable. When the inter-basin water transfer is not taken into consideration, all model and scenario results are below the total water requirement values in all periods. This is an indication that a significant water deficit will be observed continuously in the basin throughout the projection period. The highest water deficit in the Meriç-Ergene Basin is expected in the 2051-2060 period and it is possible to meet approximately 18% of the water demand in this period. All modelling and results of climate change are given in the Hydrology Report prepared within the scope of the Project. The map of the basin's climate change impact classes is shown in Figure 58 .

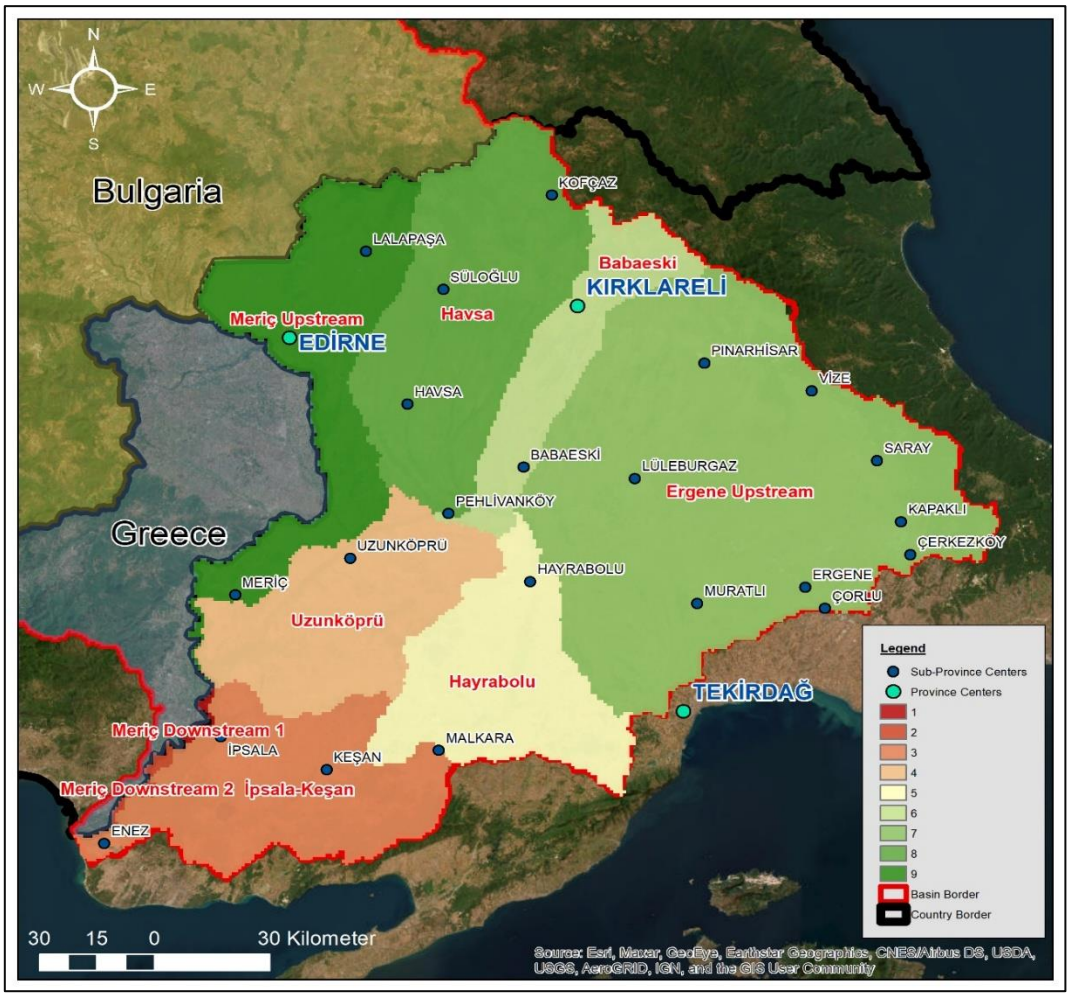


Figure 58 . Climate Change Impact Classes in the Basin (Flood Risk Preliminary Assessment Report, 2022)

According to this figure, the table of impact classes is presented below.

Table 42. Classes Affected by Climate Change

Sub Basin Code	Alan	2022- 2049 Maximum Precipitation	Class
* Lower Meric 1	0.002413	0.000605	1
* Lower Merich 2	0.003887	0.000602	2
*Ipsala-Kesan	0.17886	0.0006	3
Uzunköprü	0.163681	0.000591	4
Hayrabolu	0.158622	0.000579	5
Babaeski	0.095997	0.00057	6
Upper Ergene	0.541506	0.000559	7
Havsa	0.235152	0.000556	8
Upper Merich	0.180167	0.000555	9
*Selected Sub-basins			

3.2.5. Geology and Soil

If the flood management plan is not implemented, the impacts on geology and soil in possible flood situations are given below.

- Soil Erosion: Floods cause erosion by removing the upper layers of soils. This reduces the productivity of agricultural lands and causes soil loss. In addition, landslides in river beds can also cause significant problems.
- Disturbance of Soil Structure: Floods disrupt the soil structure in residential and agricultural areas, causing soils to become saturated with water and reduce permeability. This can lead to further accumulation of water and soil liquefaction.
- Disturbance of Geological Balance: Floods can change the shape of river beds and natural watercourses. This can lead to changes in groundwater levels and destabilisation of local ecosystems. In addition, sediments deposited during flooding can affect the geological structure over time.
- Landslides and Damage to Infrastructure: High flood waters may cause landslides. This may cause major damage to settlements by damaging infrastructures.

3.2.6. Ecosystems and Biodiversity

Map of protected areas in Meriç Ergene BasinFigure 24 Possible impacts expected if the Flood Management Plan is not implemented are given below.

Habitat Loss: Floods destroy aquatic ecosystems, agricultural areas and natural habitats. This can lead to the loss of habitats of many plant and animal species. In addition, negative impacts such as erosion and pollution may occur in the habitats of aquatic animals.

Decrease in Biodiversity: Floods can cause local plant and animal species to disappear or migrate. Especially sensitive species that cannot withstand floods can lead to a decrease in biodiversity. Lack of planning can increase the frequency of such biodiversity threatening events.

Deterioration of Water Quality: Floods can cause water quality degradation by polluting water resources. This negatively affects biodiversity in ecosystems and can be fatal for species living in aquatic ecosystems.

Weakening of Ecosystem Functions: Floods disrupt the water retention capacity of ecosystems and the nutrient cycling of soils, preventing the efficient provision of ecosystem services. This reduces the functionality of ecosystems and threatens biodiversity.

3.2.7. Historical and Cultural Heritage

Uncontrolled floods can disrupt the physical integrity of historical and cultural heritage structures, causing collapse of walls, weakening of foundations and erosion of building materials. In particular, prolonged retention of water in the structure leads to an increase in humidity, causing materials such as stone and wood to rot, mould and reduce structural durability.

In addition, sediments brought by floods can cover historical sites and destroy archaeological remains. Mud and wastes accumulated in cultural heritage sites make it difficult to preserve artefacts and may cause additional damage during the clean-up process. In addition to the physical destruction caused by flooding, some historical buildings and sites may be inundated and completely destroyed. In addition, resources allocated for the protection of cultural heritage may be insufficient, as the economic and social structure of the region may be damaged due to floods. In order to minimise such risks, flood management plans should be effectively implemented, protection measures should be taken and flood-resistant restoration techniques should be developed

3.3. Cumulative Impact Assessment

The cumulative impact assessment of the Strategic Environmental Assessment Report prepared in conjunction with the Flood Risk Management Plan and the cumulative impact assessment of the Strategic Environmental Assessment Report prepared in conjunction with the Flood Risk Management Plan is given in Table 43 .

Table 43 . Cumulative Impact Assessment Table

Critical Element	Possible Effects of Flooding	Cumulative Impact (Positive/Negative)	Duration of Effect	Stakeholders to be affected	Potential Impact of Flood Management Plan	Strategic Environmental Impact Assessment
Water Quality	• Pollution of water resources, • Difficulty in obtaining drinking water, • Damage to ecosystems.	**Negative**	Medium term	• Republic of Türkiye Ministry of Environment, Urbanisation and Climate Change, • Republic of Türkiye Ministry of Agriculture and Forestry, General Directorate of Water Management, • Local people, • Agriculture sector, • Environmental Non-Governmental Organisations.	• Preventing the spread of wastes and pollutants carried by floods to water resources before and after floods. • Planning of rapid post-flood clean-up and treatment processes to protect water quality. • Reducing the risk of contamination of groundwater reserves by flooding. • Supporting water management by reducing overuse pressure on water resources through flood prevention strategies. • Improvement of water quality, protection of water resources.	• There are many water bodies in the region. A decrease in water quality is expected in these water bodies (lakes, dams, rivers, etc.) due to flooding. The decrease in water quality will reduce the efficiency of both drinking and domestic water. • Negative impacts on water quality can be minimised through measures in the Flood Risk Management Plan. • Water protection infrastructure needs to be strengthened.
Biodiversity	• Habitat loss, risk of species extinction, • Disruption of ecosystem balance	**Negative**	Long-term	• Ministry of Agriculture and Forestry, Environmental NGOs, • Local people, • Academic institutions.	• Preventing the destruction of natural habitats by flood waters and protecting wetlands. • Increasing the resilience of ecosystems through the creation of biological corridors and flood buffer zones. • Implement early intervention mechanisms to prevent post-flood habitat loss of sensitive species. • Supporting wetland and riparian ecosystems through flood management.	• Floods can result in the destruction of natural habitats. • Negative impacts can be minimised through measures in the Flood Risk Management Plan. • Ecosystem restoration and habitat improvement are required.
Climate Change	• Increasing Flood Frequency, Extreme Rainfall and Flash Floods, • Increasing Risks with Climate Change.	**Negative**	Long Term	• Republic of Türkiye Ministry of Environment, Urbanisation and Climate Change, • Energy Sector, • Local Governments.	• Mitigate the impacts of extreme weather events, which are increasing due to climate change, by reducing flood risk. • Integrating climate change adaptation plans and flood management policies. • Reducing carbon footprint through innovative flood management practices.	• Flood Management Strategies should be developed in consideration of Climate Change Scenarios. Flood Management Plan can reduce flood risks in a manner compatible with climate change. • Solutions should be offered to minimise the impacts of climate change.
Agriculture and Soil Use	• Erosion, flooding of agricultural lands, • Crop losses, • Decreased soil fertility.	**Negative**	Short-term	• Republic of Türkiye Ministry of Agriculture and Forestry, General Directorate of Water Management, • Farmers • Agricultural unions, • Local governments.	• Preventing pesticides and fertilisers carried by floods from agricultural areas from polluting water resources. • Making drainage and water collection systems in agricultural lands in accordance with the flood management plan. • Implementation of remediation methods to maintain soil fertility in post-flood agricultural lands. • Ensuring sustainability in agricultural production through flood management.	• Protection measures against flood risks in agricultural areas should be developed. • Land restructuring and water management strategies should be strengthened. • Thanks to the measures taken in the Flood Risk Management Plan, it can be effective in protecting agricultural lands in the short term. • It is assessed that irrigation and drainage infrastructure needs to be improved
Industry and Infrastructure	• Flooding of industrial facilities, • Loss of production, damage to infrastructure.	**Negative**	Short-term	• T.C. Ministry of Industry and Technology, • Industrial organisations, • Local governments, • Infrastructure providers	• The Flood Risk Management Plan offers strategic solutions to minimise flood risks in industrial areas. Strengthening flood protection infrastructure in areas where industrial facilities are located ensures that production facilities are protected from floods. Early warning systems and regulations in areas with high flood risk can protect industrial facilities from the effects of floods and prevent interruptions and damages. In addition, the development of environmental risk management strategies in industrial zones in order to mitigate the effects of floods ensures that the negative impacts on the environment are minimised.	• Improvement plans should be prepared to reduce the effects of floods in industrial and infrastructure areas. • The Flood Management Plan provides short-term measures for the protection of industry and infrastructure investments. Infrastructure needs to be strengthened and prepared for flood risk.

Economic Activities	• Trade disruption, • Production losses • Causing financial losses in industry and agriculture.	**Negative**	Medium term	• Chambers of commerce and industry, agricultural and industrial sector, financial institutions, • Local governments.	• Preventing/ minimising material losses due to flood disasters and the impact on the livelihoods of the people, • Sustainable use of increasingly important soil and water resources, food security and keeping the agricultural population in place, increasing rural development support in our country, increasing the use of technology and information in agriculture, enabling the use of inputs, diversifying marketing channels and directing production in line with demand.	• Develop risk management strategies to protect economic activities from floods • Flood Risk Management Plan creates medium-term strategic impacts to ensure the continuity of economic activities. Plans should be created to minimise economic losses.
Landscape Areas	• Landscape degradation, • Visual pollution, • Destruction of natural areas.	**Negative**	Medium term	• Local governments, • Environmental Non-Governmental Organisations, • Tourism sector, • Local people.	• Within the scope of this plan, the protection of natural floodplains, the rehabilitation of wetlands, the expansion of forested areas and the promotion of green infrastructure practices ensure that landscapes are resilient to flooding. In addition, measures for erosion control, improvement of drainage systems and protection of natural vegetation are critical for the continuity of the physical and ecological values of the landscape. In urban landscapes, the negative effects of floods can be minimised through regular maintenance and resilience enhancing works.	• Flood management strategies for the protection of natural landscapes should be developed. • The Flood Management Plan provides medium-term strategies for the protection of landscape areas.
Soil Erosion	• Landslides • Flooding, • Threat to settlements.	**Negative**	Short-term	• Republic of Türkiye Ministry of Agriculture and Forestry, General Directorate of Water Management, • Farmers • Agricultural unions, • Local governments.	• Prevention/minimisation of landslide risks that may occur as a result of flooding, • Increasing soil fertility through afforestation works, establishing green areas and urban forests around cities, reducing air and noise pollution, preventing dust transport, floods and floods, preserving water resources, extending the life of dams, protecting biodiversity.	• Flood management plans should be prepared to prevent soil erosion. • The Flood Risk Management Plan should include measures to control soil erosion.
Transport Infrastructure	• Disruption of transport, • Damage to bridges and roads.	**Negative**	Medium term	• Ministry of transport and infrastructure, • Municipalities • Local people, • Private transport companies.	• Making infrastructures such as bridges, roads and railways resistant to floods.	• Provides opportunities for strengthening together with the Flood Management Plan. • Plans should be made to increase the resilience of the transport infrastructure.

3.4. Relationship of the Plan with Sensitive Areas

Considering the current status of the Meriç Ergene Basin and its specific environmental and health issues, the Flood Risk Management Plan outlines the possible future developments in terms of environment, livelihoods and health. In this context, key environmental issues have been focussed at this stage and it is aimed to provide a basis for assessing the future impacts of the proposed measures. In this context, key environmental issues and concerns across the basin are given in Table 44 . Relationship between Flood Risk Management Plan and Sensitive Areas Table 45 is given with.

Table 44 . Environmental Key Issues and Special Concerns

Environmental Key Issues	Special Concerns
Water Pollution and Protection of Water Resources	• Pollution of surface and underground water resources due to floods (contaminants such as agricultural pesticides, heavy metals, sewage wastes, industrial chemicals, etc.). • Damage to wastewater treatment plants after flooding and contaminated water directly into water resources. • Chemicals and oil derivatives leaking from industrial plants threaten water resources. • Damage to aquatic ecosystems by sediment and sediment brought by floods, reducing the capacity of lakes and dams. • Irregularities in groundwater levels and the risk of salinisation or contamination of drinking water sources. • Interruptions in drinking water distribution systems due to infrastructure damages caused by floods.
Soil Pollution and Erosion	• Runoff formation. • Flood and landslide disasters trigger each other. • Flood disasters affecting topographic features. • Loss of vegetative soil due to flood disaster. • Permanent damages that may occur in stored water structures (dams and ponds) as a result of possible earthquakes and consequent collapses, and possible flooding of downstream settlements as a result of collapse. • Increased soil erosion and decreased agricultural productivity. • Deterioration of soil quality due to salinisation effect after flooding in coastal areas. • Spread of wastes and pollutants carried by floods on agricultural lands and natural soil cover, deteriorating the physical and chemical properties of the soil. • Toxic substances from industrial zones and agricultural areas are mixed into the soil and reduce productivity. • Loss of vegetative soil layer due to severe flooding and long-term yield reduction in agricultural areas. • Accelerated erosion caused by floods on sloping land increasing soil losses. • Heavy flow in the river beds, alluvial deposition and sediment mobility increase and disrupt the natural structure of the soil. • Increased risk of flooding and erosion as a result of deforestation and improper land use.
Biodiversity and Habitat Loss	• Destruction of wetlands, forested areas, agricultural areas and coastal ecosystems due to floods. • Flood waters uproot vegetation, disrupting natural habitats and causing species to lose their habitats. • Damage to the habitats of endemic and sensitive species, interruption of migration routes and decline in populations. • Negative impact on fish, amphibians and other aquatic organisms living in freshwater ecosystems due to deterioration of water quality. • Dispersal of post-flood pollutants (pesticides, heavy metals, petrol derivatives) into natural areas and increased toxic effects on biodiversity.

	• Floods lead to the spread of invasive species, destabilising local ecosystems. • Excessive sediment accumulation has a negative impact on river and lake ecosystems, preventing aquatic plants from photosynthesising and reducing oxygen levels. • Coastal flooding damages marine ecosystems, destroying sensitive ecosystems such as seagrass meadows and coral reefs.
Waste Management	• Damage to waste collection and disposal systems due to floods, causing uncontrolled waste spreading. • Industrial, domestic and medical wastes drifting with flood waters and spreading to the environment and threatening public health. • Plastic, metal, glass and other wastes carried by flood waters after floods pollute water resources and accumulate in marine/coastal ecosystems. • Failure of wastewater treatment plants due to flooding and discharge of untreated wastes into rivers, lakes or seas. • Spread of electronic and hazardous wastes (batteries, paint residues, chemicals, etc.) through floods and cause soil, water and air pollution. • Post-flood debris and rubble piles generate large amounts of waste and the need to manage the disposal process. • Decomposition of food wastes after flooding, threatening public health by increasing the formation of odour and harmful pests (flies, mice, etc.).
Climate Change	• Increasing frequency and severity of flood events due to climate change. • Excessive rainfall, sea level rise and extreme weather events increase flood risks. • Hydrometeorological changes lead to uncertainty in flood models, making risk management difficult. • Inadequacy of flood prevention structures (dams, reservoirs, water retention dykes, etc.) in adapting to the new dynamics brought about by climate change. • Flood disasters damage agricultural areas, cause losses in agricultural production and threaten food security. • Changing precipitation regimes due to climate change altering the seasonal and regional distribution of floods. • Differentiation of the dynamics of the formation of floods as a result of the increase in evaporation with the increase in temperature and the change in the water cycle.
Industrial Pollution	• Damage to industrial facilities due to floods and the spread of hazardous chemicals into the environment through water, soil and air. • Flooding destroys factory waste storage areas and waste leaks contaminate groundwater sources. • Flooding in oil refineries, chemical production plants and heavy industry areas causing toxic substances to enter rivers and lakes. • Wastewater treatment plants in industrial areas are out of operation due to floods and untreated wastes are mixed with natural water resources. • Spread of heavy metals (lead, mercury, cadmium, etc.) from metal industry and mining activities to agricultural areas and ecosystems through flood waters. • Toxic gases released into the air due to flooding in industrial zones have negative impacts on human health and ecosystems. • Infrastructure damages in industrial facilities after floods disrupting the production process and causing economic losses.
Agricultural Pollution	• Fertilisers and pesticides used in agricultural areas mix into water with floods and pollute water resources, causing environmental and health problems. • Increased soil erosion during floods and transport of nutrients to water, causing loss of soil fertility and decrease in agricultural production. • Chemicals used in agriculture mix into waterways with floods and contaminate local drinking water sources, both threatening water quality and putting public health at risk. • Chemicals used in agricultural areas mix into aquatic ecosystems with floods and cause the death of aquatic organisms, leading to a decrease in biological diversity. • Agricultural pollutants accumulate and pollute the environment, making sustainable agricultural practices difficult and reducing productivity in the long term, negatively affecting the agricultural sector.

	• Transfer of agricultural pollution to water resources and spread of diseases that can be transmitted by drinking contaminated water, increasing health problems in the region.
Protection of Natural and Cultural Heritage	• Destruction of natural areas and reduction of biodiversity. • Destruction of structures in areas of historical and cultural heritage. • Denial of access to cultural heritage sites. • Decrease in ecotourism activities in the region.
Infrastructure and Settlement Areas	• Destruction of roads, bridges, water treatment plants and power lines, which disrupts the functioning of infrastructure systems. • Flooding settlements and causing destruction of houses and workplaces. • Damage to water and waste water systems during floods. • Floods destroy electricity and communication infrastructure, complicating emergency relief in times of crisis and causing prolonged power outages in residential areas. • Disruption of transport in the region, causing the collapse of public transport systems and road closures. • Loss of life and property in residential areas.

Table 45 . Relationship between Flood Management Plan and Susceptible Areas

Sensitive Areas	Relevance	Possible Relevance to Existing Problems
Areas that need to be protected in accordance with the legislation of our country		
"National Parks", "Nature Parks", "Nature Monuments" and "Nature Conservation Areas" determined in accordance with Article 3 of the National Parks Law No. 2873 dated 9/8/1983	Yes	It will contribute to the conservation of natural ecosystems and help support biodiversity through the improvement of water bodies and rivers.
b) "Wildlife Protection Areas, Wildlife Development Areas and Wild Animal Settlement Areas" designated by the Ministry of Forestry and Water Affairs in accordance with the Land Hunting Law dated 1/7/2003 and numbered 4915	Yes	By improving the current situation, improved rivers and water bodies will contribute to a healthier state of "Wildlife Protection and Wildlife Development Areas". Flood management and regulation of water resources will help wildlife habitats to become healthier and protect the natural life cycle.
c) Areas defined as "Cultural Assets", "Natural Assets", "Sites" and "Protected Areas" in sub-paragraphs 1, 2, 3 and 5 of sub-paragraph (a) of the first paragraph of Article 3 of the Law on the Protection of Cultural and Natural Assets No. 2863 dated 21/7/1983 and numbered 2863, and areas identified and registered in accordance with the relevant articles of the same Law	Yes	It will increase the security of protected areas by preventing damage to historical and natural heritage from floods. It will also contribute positively to tourism activities.
ç) Fisheries and Habitats within the scope of the Fisheries Law dated 22/3/1971 and numbered 1380	Yes	With the improvement of the current situation, the developed rivers and water bodies will contribute to a healthier state of the Aquaculture and Breeding Areas.

d) Areas defined in Articles 17, 18, 19 and 20 of the Water Pollution Control Regulation published in the Official Gazette dated 31/12/2004 and numbered 25687	Yes	Regulations on protection areas have been made by the Regulation on the Protection of Drinking-Use Water Basins, which entered into force after being published in the Official Gazette dated 28.10.2017 and numbered 30224. The FRMP will take into account the protection areas determined according to Articles 8, 9, 10, 11 and 12 of the water bodies from which drinking water is supplied as specified in this regulation. In addition, it will be ensured that the Flood Management Plan is in compliance with the limits set in the regulation.
e) Groundwater protection areas declared in accordance with the provisions of the Law on Groundwater dated 16/12/1960 and numbered 167 and the Regulation on the Protection of Groundwater against Pollution and Degradation published in the Official Gazette dated 7/4/2012 and numbered 28257	Yes	It will protect water quality by preventing domestic and agricultural wastes brought by floods from polluting groundwater resources.
f) Areas defined in the Regulation on Air Quality Assessment and Management published in the Official Gazette dated 6/6/2008 and numbered 26898	None	
g) Areas determined and declared as "Special Environmental Protection Zones" by the Council of Ministers in accordance with Article 9 of the Law No. 2872	Yes	With the improvement of the current situation, the developed rivers and water bodies, the protection of the areas that constitute important tourism resources will be maintained by preventing the protection areas from being affected by floods.
ğ) Areas taken under protection according to the Bosphorus Law dated 18/11/1983 and numbered 2960	Yes	
h) Places considered as forest areas in accordance with the Forest Law dated 31/8/1956 and numbered 6831	Yes	It will contribute to erosion control by preventing damage to forest ecosystems from floods.
ı) Areas where building bans and construction restrictions are imposed in accordance with the Coastal Law dated 4/4/1990 and numbered 3621	Yes	Areas where construction is prohibited in accordance with the Coastal Law will serve as a measure to minimise the impact of floods. It will help to protect natural flood buffer zones by preventing construction in coastal areas.
i) Areas specified in the Law on the Improvement of Olive Groves and Grafting of Wild Olives dated 26/1/1939 and numbered 3573	Yes	By improving the current situation, improved streams and water bodies will contribute to a more productive and healthy state of olive areas. They will support agricultural productivity by protecting olive groves from the threat of flooding and erosion.
j) Areas specified in the Pasture Law dated 25/2/1998 and numbered 4342	Yes	It will support the sustainability of animal husbandry by preventing damage to pasture areas from flooding.
k) Areas specified in the Regulation on the Protection of Wetlands published in the Official Gazette dated 4/4/2014 and numbered 28962	Yes	By improving the current situation, the developed streams and water bodies will contribute to the protection and sustainability of the ecological status of the wetlands identified in the Official Gazette. By ensuring the protection of wetland ecosystems, it will ensure the continuity of biodiversity.

l) Protection of agricultural lands with agricultural production potential within the scope of the Soil Conservation and Land Use Law No. 5403 dated 3/7/2005 and the Agricultural Reform Law on Land Regulation in Irrigation Areas No. 3083 dated 22/11/1984	Yes	Sustainable use of water will positively affect agricultural activities and agricultural areas will need to be taken into account in this process.
Areas to be Protected in accordance with International Conventions to which Türkiye is a Party		
a) Protected areas under protection in accordance with the "Convention for the Conservation of European Wildlife and Habitats" (BERN Convention) such as Protected Areas I and II specified in "Important Sea Turtle Breeding Areas", "Mediterranean Monk Seal Habitat and Breeding Areas"	None	
b) Protected areas in accordance with the "Convention for the Protection of the Mediterranean Sea against Pollution" (Barcelona Convention)	None	
1) Areas declared as "Special Environmental Protection Areas" in our country in accordance with the "Protocol on Special Protection Areas and Biological Diversity in the Mediterranean"	None	
c) Cultural, historical and natural areas that have been granted "Cultural Heritage" and "Natural Heritage" status by the Ministry of Culture and Tourism in accordance with Articles 1 and 2 of the "Convention on the Protection of the World Cultural and Natural Heritage"	Yes	Flood management and protection of water resources will contribute to the sustainable protection of world heritage sites by minimising the impact of natural disasters.
ç) Areas under protection in accordance with the "Convention on the Conservation of Wetlands of International Importance Especially as Waterfowl Habitat" (RAMSAR Convention)	Yes	By improving the current situation, improved rivers and water bodies will contribute to a healthier state of protected areas.
d) European Landscape Convention	Yes	It will enhance the environmental compatibility of flood control structures, helping to protect natural landscapes.
Areas in Need of Protection		
a) In the approved Environmental Plans, the areas whose existing characteristics are determined as areas to be protected and where construction is prohibited (Natural Character Protection Area, Ecological Character Protection Area and similar)	Yes	It will support the protection of natural areas and minimisation of flood risk by preventing unplanned construction.
b) Agricultural Areas: Lands whose soil, topography and climatic characteristics are suitable for agricultural production and which are currently used for agricultural production or can be transformed into lands suitable for agricultural production by zoning, reclamation and rehabilitation	Yes	It will ensure the sustainability of productivity by preventing agricultural production from being damaged by floods.

c) Wetland: All waters, swamps, marshes, reeds and peatlands, natural or artificial, permanent or temporary, stagnant or flowing, fresh, brackish or salty, covering depths not exceeding six metres during the ebb of the tidal movements of the seas, which are important as a habitat for living creatures, especially water birds, and the places where these areas are ecologically wetlands from the coastal edge line towards the land side.	Yes	It will support ecosystem health by protecting wetlands from negative impacts on the water regime.
ç) Lakes, rivers, groundwater operation areas	Yes	By ensuring the protection of water resources, it will ensure water quality and ecological balance.

4. MERIÇ ERGENE BASIN FLOOD MANAGEMENT ENVIRONMENTAL INDICATORS AND ENVIRONMENTAL PROTECTION OBJECTIVES

Various indicators have been defined in order to assess the environmental status of the Meriç Ergene Basin and to determine sustainable development targets. These indicators are used to measure the environmental performance of the basin and monitor changes over time. Main indicators such as water quality, air quality, soil fertility, biodiversity, waste management and energy utilisation provide an opportunity to assess the current state of the basin as well as the effectiveness of environmental protection policies. Environmental protection objectives have been set to ensure sustainable use of natural resources and reduce environmental problems. Environmental indicators and related environmental protection targets are given below.

Table 46. Environmental Indicators and Environmental Protection Targets

Environmental Indicator	Environmental Protection Target
Water Pollution and Protection of Water Resources	▪ Protection and effective utilisation of water resources. ▪ Rehabilitation of contaminated water resources. ▪ Expansion of waste water treatment plants. ▪ Encouraging water-saving technologies in agricultural activities. ▪ Monitoring and protection of groundwater reserves.
Soil Pollution and Erosion	▪ Promoting sustainable practices in agriculture. ▪ Prevention of deforestation and afforestation works. ▪ Making soil analyses widespread and increasing the conscious use of fertilisers. ▪ Increasing terracing and vegetation works for erosion control. ▪ Regular inspection of industrial wastes causing soil pollution.
Biodiversity and Habitat Loss	▪ Conservation and expansion of natural habitats. ▪ Develop monitoring mechanisms for species monitoring and conservation. ▪ Establishment of special protection areas for the protection of endemic species. ▪ Control of alien invasive species. ▪ Establishment of biological corridors and improvement of existing areas.
Waste Management	▪ Increasing recycling rates. ▪ Reducing the environmental impact of landfills.
Climate Change	▪ Reduction of carbon emissions. ▪ Adoption of climate-friendly agricultural and industrial policies. ▪ Encouraging forestation projects to increase carbon sinks in the basin. ▪ Increasing the share of renewable resources in energy production. ▪ Implementation of climate change adaptation strategies (e.g. flood control plans).
Noise Pollution	▪ Increasing inspections of industrial facilities and transport routes to reduce noise pollution. ▪ Preparation of noise maps and implementation of noise mitigation plans.
Cultural and Natural Heritage	▪ Protecting cultural and natural heritage sites and promoting sustainable tourism. ▪ Planning studies for the protection of heritage sites from environmental impacts.

5. SCOPING AND SCOPING PHASE

5.1. Scoping Stages

The scoping meeting was held in Edirne Province on 13 November 2023 with the representatives of basin-scale institutions and organisations. The findings obtained after the meeting were evaluated, the draft version of the Scoping Report was updated considering the data and information it contains, and the report was finalised. The stakeholders of the project provided feedback for the Draft Scoping Report and these feedback were integrated into the report within the framework of consultation (web-based and on-site consultations). The expectations and inputs of central and basin level institutions and organisations were used to set environmental objectives, as well as environmental protection and enhancement activities were integrated into the report. The evaluations of the participants in the consultation meeting and related notes are presented in the Consultation Meetings section of the report.

The works to be carried out following the approval of the Scoping Report within the scope of Strategic Environmental Assessment will be carried out by following the steps given below:

- Preparation of the SEA Draft Report and submission to the Ministry of Environment, Urbanisation and Climate Change and the Final Beneficiary Institution General Directorate of Water Management, publication of the report on the websites for thirty calendar days, presentation of the SEA Draft Report to the relevant stakeholders in a meeting and receiving their opinions and suggestions,
- Taking into consideration the comments and suggestions on the draft SEA Report, making necessary adjustments to the SEA Report and finalising it,
- Submission of the SEA Report to the Final Beneficiary Institution General Directorate of Water Management and Ministry of Environment, Urbanisation and Climate Change and publication on their websites for thirty calendar days,
- Elimination of deficiencies, if any, and making corrections by the authorised institution,
- Publication of the final Strategic Environmental Assessment Report on the internet. The Competent Authority submits to the Ministry the approved plan, an information report explaining how the results of the Strategic Environmental Assessment, including environmental and health considerations, the opinions received from environmental and health related institutions/organisations and the public, have been integrated into the plan/programme, which alternative has been selected and how, and the monitoring programme,
- The Ministry of Environment, Urbanisation and Climate Change and the Competent Authority notify the final version of the SEA Report to the public and institutions via internet.

In the context of the Project, the General Directorate of Water Management, as the Final Beneficiary, accepts/approves the plan, taking into account the results of the SEA Report on the Meriç-Ergene Basin Flood Risk Management Plan, the opinions of environmental and health related organisations and the public, and the comments made by the Ministry of Environment, Urbanisation and Climate Change on the quality of the SEA Report.

5.2. Scoping Approach

The purpose of scoping is to identify the information to be included in the SEA Report, i.e. the environmental and health issues to be addressed in more detail in the SEA, and to identify issues that are not related to a specific plan and therefore do not need to be further analysed.

In this context, the SEA Scope was determined and analysed in line with both national and international examples and studies. Examples analysed are given below.

- Coruh and Eastern Black Sea Basins Flood Management - Strategic Environmental Assessment
- Marmara Basin Flood Management Plan - Strategic Environmental Assessment
- Susurluk Basin Flood Management Plan - Strategic Environmental Assessment
- Updating the Antalya Basin Flood Management Plan - Strategic Environmental Assessment (Draft Report)
- Lake Van Basin Flood Management Plan - Strategic Environmental Assessment
- Konya Drought Management Plan - Strategic Environmental Assessment
- Multi-level hegemony in transboundary Flood Risk Management: A downstream perspective on the Maritsa
- Technical Assistance for Transformation of Basin Protection Action Plans into River Basin Management Plans -Meriç-Ergene River Basin Management Plan
- Water and Sediment Quality Assessment of the Lifeblood of Thrace Region (Türkiye): Meriç River Basin
- Industrial Water Pollution in Meriç Ergene Basin
- Study for the Strategic Environmental Assessment (SEA) of the European Territorial Cooperation Programme Greece - Bulgaria 2014-2020
- The Emerging Flood Risk on the Lower Part of Transboundary Meric/Maritsa River Basin
- Integration of Strategic Environmental Assessment in Flood Management Planning, lessons learnt from the International Experience- Case Pakistan
- OUR WATERS: JOINING HANDS ACROSS BORDERS: First Assessment of Transboundary Rivers, Lakes and Groundwaters
- Flood Risk Management Plan in the Elbe River Basin
- Meriç-Ergene and Marmara Basins Drought Management Plan - Strategic Environmental Assessment (SEA) Information Report

5.3. Scoping Matrix

During the SEA Scoping studies, priority issues to be addressed in the SEA Report were identified and a scoping matrix was developed (see Table 1).

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6. ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACTS OF MERIÇ ERGENE BASIN FLOOD MANAGEMENT PLAN

6.1. Key Environmental Issues

The Meriç-Ergene Basin is a strategic region of Türkiye with important agricultural, industrial and water resources. The ecological, economic and social balance of the basin depends on the effective management of environmental problems in the region. However, factors such as intensive industrial activities, agricultural production pressure, population growth and climate change cause serious environmental problems in the basin. In this report, priority environmental issues are addressed in order to assess the current status of the basin and to identify sustainable management objectives. The key environmental issues will provide guidance for both the protection of natural resources in the region and the mitigation of environmental pressures.

The environmental key issues identified for the Meriç-Ergene Basin have been carefully selected in the light of the current situation of the basin, environmental indicators and feedback from relevant stakeholders. Firstly, the factors (water pollution, soil erosion, biodiversity loss, etc.) that put the most pressure on the basin ecosystem were identified. Furthermore, existing monitoring data and scientific research were reviewed to analyse the long-term impacts of environmental risks in the region. In the selection process, national environmental policies, priorities of local administrations and international environmental protection standards were taken into consideration. Thus, key issues that will support sustainable development in the basin and ensure the protection of ecological balance have been identified. These issues constitute a road map for solving the existing environmental problems and achieving the future environmental goals of the basin. The key environmental issues and the impact of the Flood Management Plan on them are given below.

Table 47. Impact of the Flood Management Plan on Key Environmental Issues

Key Environmental Issues	Impacts of the Flood Management Plan	Environmental Significance
Water Pollution and Protection of Water Resources	• Preventing the spread of waste and pollutants carried by floods to water bodies. • Planning of rapid post-flood clean-up and treatment processes to protect water quality. • Reducing the risk of contamination of groundwater reserves by flooding. • Supporting water management by reducing overuse pressure on water resources through flood prevention strategies.	• The protection of surface and groundwater resources is vital for ecosystem health and human use.
Soil Pollution and Erosion	• Reducing soil loss and topsoil loss in agricultural areas caused by floods. • Flood risk maps to guide the reinforcement of soil cover in pollution-prone areas. • Integration of drainage systems for erosion control with flood planning.	• It is critical for maintaining agricultural productivity and sustaining soil quality.
Biodiversity and Habitat Loss	• Preventing the destruction of natural habitats by flood waters and protecting wetlands. • Increasing the resilience of ecosystems through the creation of biological corridors and flood buffer zones. • Implement early intervention mechanisms to prevent post-flood	• Ecosystem integrity is preserved, and the sustainability of habitats for sensitive species is ensured.

	habitat loss of sensitive species. • Supporting wetland and riparian ecosystems through flood management.	
Waste Management	• Preventing the spread of solid wastes to the environment by preventing flood waters from reaching landfill areas. • Strengthening of wastewater management systems in accordance with flood plans . • Removal and organisation of irregular waste dumping areas from areas with high flood risk. • Supporting infrastructure reinforcement projects to prevent recycling facilities from being affected by floods.	• The spread of solid and liquid waste during floods, which could harm the environment and human health, is prevented.
Climate Change	• Mitigate the impacts of extreme weather events, which are increasing due to climate change, by reducing flood risk. • Integrating climate change adaptation plans and flood management policies. • Reducing carbon footprint through innovative flood management practices.	• Climate-resilient infrastructure is developed to reduce disaster risks.
Industrial Pollution	• Prevention of chemical pollution that may spread to the environment by protecting industrial areas within the scope of flood risk maps. • Improvement of drainage systems for flood protection of industrial infrastructure. • Implementation of effective water management plans to prevent the transport of industrial wastes through flood waters.	• Environmental disasters are avoided by preventing chemical leaks and dispersions.
Agricultural Pollution	• Preventing pesticides and fertilisers carried by floods from agricultural areas from polluting water resources. • Making drainage and water collection systems in agricultural lands in accordance with the flood management plan. • Implementation of remediation methods to maintain soil fertility in post-flood agricultural lands. • Ensuring sustainability in agricultural production through flood management.	• Risks of water pollution and soil degradation are reduced, supporting food security.
Protection of Natural and Cultural Heritage	• Implementation of priority protection projects to prevent floods from damaging historical and natural heritage sites. • Taking protective measures to minimise the need for post-flood restoration of cultural assets. • Supporting sustainable tourism by reducing flood risk in touristic areas.	• The sustainability of cultural and natural assets is ensured, preserving regional identity and tourism potential.
Infrastructure and Settlement Areas	• Reducing environmental and human health risks by preventing floods from damaging the infrastructure in settlements. • Development of drainage systems in accordance with the flood management plan.	• Loss of life and property after disasters is prevented, ensuring settlement safety and public health.

	• Increasing green infrastructure practices against flood risk in urban areas.	

Considering these impacts, Flood Risk Maps were prepared as a result of the studies and the damages that floods may cause to the economy, social life, strategic facilities and the environment were analysed with these maps.

Flood Risk Maps (R) consist of Economic Damage (EZ), Affected Population (NZ), Strategic Facilities (ST), Extent of Environmental Damage (EZ), Economic Activity (EA) and Agricultural Flood Risk (TTRH) maps. Within the scope of the Meriç-Ergene Basin Flood Management Plan, a method where the probability of threat and severity of impact are evaluated together is applied to determine the flood risk. This method classifies the frequency of occurrence of flood events from low to high and assigns certain scores to each assessment parameter. The table below presents the criteria used to prioritise the measures taken.

Table 48. Criteria Used for Prioritisation of Measures in FRMP

Classification	Class Description	Very Low (1-2)	Low (3-6)	Medium (7-9)	High (10-19)	Very High (20-25)
Health	Number of People Who May Be Affected	≤ 5,000	5,001- 10,000	10,001- 15,000	15,001- 30,000	≥ 30,001
	Social Facility (number)	≤ 40	41- 100	101- 150	151- 300	≥ 301
	Critical Facility (pcs)	≤ 20	21- 50	51- 75	76- 150	≥ 151
	Affected Population Density	≤ 40	41- 100	101- 150	151- 300	≥ 301
Environment	Protected Area (Ha)	≤ 80	81- 200	201- 300	301- 600	≥ 601
	Green Area (Ha)	≤ 40	41- 100	101- 150	151- 300	≥ 301
	Pollution Source (number)	≤ 40	41- 100	101- 150	151- 300	≥ 301
Cultural Heritage	Cultural Assets (pcs)	≤ 1	2- 3	4- 5	6- 9	≥ 10
Economic Events	Property (pcs)	≤ 750	751- 1,750	1.751- 2,500	2,501- 5,000	≥ 5,001
	Arable Area (Ha)	≤ 90	91- 180	181- 270	271- 600	≥ 601
	Economic Item (pcs)	≤ 90	91- 180	181- 270	271- 600	≥ 601
	Road Length (km)	≤ 20	21- 50	51- 75	76- 150	≥ 151

Within the scope of the Flood Risk Management Plan Preparation Project; the determinations of the Flood Risk Preliminary Assessment (FRPA), Hydrology, Flood Hazard Maps Reports were used as input.

Within the scope of hydraulic modelling studies in the Flood Hazard Maps Report, hydrographs were prepared by determining 10, 50, 100, 500, and 1000 year flood recurrence flows and hydraulic models were created with these flows. The models were evaluated in two stages as 1-dimensional and 2-dimensional. In the preparation of 1-dimensional models, stereo flight data and field studies were used to obtain cross sections of the stream bed and survey information of the art structures. The 2D modelling modelled the flood spreading areas in the most realistic way by identifying the structures that may obstruct the flow of water on the map. In accordance with the Technical Specification, models were created in areas where 1-D modelling was required to be prepared, and 2-D modelling was not carried out in settlement areas where the 500-year flood flow did not cause flooding. In settlements with a population of over 100, where 1-dimensional models were not required to be prepared, 2-dimensional modelling was carried out without considering the flood situation. In addition, 1000-year flood recurrence flows were also used for settlements with a central population of 100.000 and above. A total of 267 2D modelling studies were carried out in the Meriç Ergene Basin, and flood probability was observed in 264 of them. Flood hazard maps were prepared using the flood water depth and velocity maps obtained from these models, and these maps became the basis for the preparation of flood risk maps and flood management plan in the later stages of the project.

Risk assessment for settlements with a population of more than 100 while carrying out the assessment procedures in the FRPA Report:

- Distances of settlements to the stream,

- Elevation and distance differences between the stream and the settlement,
- Whether there is historical flooding in the settlement,
- The result of the analysis carried out for possible future flooding,
- Existence of existing flood control facilities and storage facilities on the streams,
- Whether the settlement is located in alluvium,
- Information and observations obtained during the field surveys carried out in a large part of the basin together with the Final Beneficiary within the scope of the Project, landslide interaction and the impact of a critical facility.

Future land use changes were analysed in the form of columns on 660 polygon data. By applying the water elevation method on the river network obtained from the Digital Elevation Model (DEM), it was tried to reveal whether the settlements would be affected by possible future floods. The settlements examined are divided into province-district-municipality/village/neighbourhood. With the 3 metre water elevation approach and the determination of the area where the settlement is located in the alluvial area, the population that may be affected by a possible flood in the evaluated settlement was determined. Using the aforementioned methods, 660 settlements were assessed. As a result of the assessment, the criteria that cause the settlements to be recognised as Potentially Significant Flood Risk Areas (PSFRAs) are specified. The objective of the project is to manage the same basic data and create a standardised database in all EEA member countries in line with the criteria and classification system determined by the European Environment Agency (EEA) for the purposes of determining environmental changes in the landscape, sustainable management of natural resources and formulation of environmental policies. According to EEA criteria and classification units (44 classes), changes in land cover/land use for land monitoring through satellite images are detected with the help of remote sensing and geographic information systems. It was decided to use the areas of economic importance such as settlements, industrial and commercial areas among the 5 basic and 44 sub-land use classes prepared upon the recommendation of EEA. The measures to be taken in these areas have not yet been finalised and some of them have been determined. The measures shared with the SEA team so far are divided into structural measures and non-structural measures.

Structural Measures:

- Transition Structure Improvement
- Streetside Arrangement / Manufacturing
- Bed Arrangement
- Upper Basin Measure

Non-Structural Measures:

- Mattress Cleaning
- Establishment of Flood Forecasting and Early Warning Systems
- Training, information

The total number of measures identified so far in the basin is 541 and the number and distribution of these measures by type are given in the table below. The Draft Flood Risk Management Plan is presented in comprehensive Annexes.

Table 49. Types and Number of Measures

Measure Type	Measure Taken	Number of Measures
Structural Measures	Transition Structure Improvement	188
	Streetside Arrangement / Manufacturing	118
	Bed Arrangement	206
	Upper Basin Measure	25
Non-Structural Measures	Establishment of Flood Forecast and Early Warning Systems	4

6.2. Water Resources (Surface and Underground)

Flood Risk Management Plan has direct and indirect impacts on water resources and water use. Floods may cause problems in areas such as drinking water supply, agricultural irrigation and industrial use by affecting the quality and quantity of water resources. In addition, pollution elements (domestic, industrial and agricultural wastes) carried during floods may cause degradation of ecosystems and threaten human health by reducing water quality.

The prepared Flood Risk Management Plan supports the protection and sustainable use of water resources. Flood prevention structures and improved riverbeds can reduce losses from flooding by regulating the natural flow regime of water. At the same time, the protection and rehabilitation of wetlands in flood zones positively affects the water cycle by increasing water storage capacity. Structural measures implemented under the Flood Management Plan can have both positive and negative impacts while contributing to the protection of water resources. On the positive side, structural measures such as riverbed levelling, flood walls, embankments and reclamation banks help to control floods, protect water quality and prevent erosion. These measures also prevent water pollution caused by floods and increase the sustainability of aquatic ecosystems. However, these structural interventions can increase water temperatures, degrade aquatic habitats and negatively affect the habitats of aquatic organisms by restricting the flow of nutrients. The negative impacts of diversion channels and floodwalls on groundwater recharge also pose a significant risk, as accelerated surface runoff can lead to lower groundwater levels. To mitigate these impacts, natural infrastructure solutions and sustainable methods with expert support should be implemented.

6.3. Population and Human Health

The effects of the measures to be taken in line with the Flood Management Plan on population and human health are given below:

- Effective early warning systems and evacuation procedures to prevent loss of life and injuries
- Protection of health infrastructure, water treatment plants and power lines ensures uninterrupted health services.
- Effective crisis management ensures that people receive psychological support and recover from trauma.
- Flood management ensures the protection of medical infrastructure and rapid access to emergency health services.
- Flood management improves the efficiency of health services by ensuring the rapid arrival of relief supplies.
- Informs the public about flood risk and health threats and ensures that they are prepared

- It ensures the safety of life and property of the public with the measures taken in the stream beds.
- It provides the balance in the population of the region by preventing migration to other areas after the flood.

These measures can be taken through structural and non-structural measures in line with the Flood Risk Management Plan. Structural measures are physical interventions such as bridges, culverts, masonry or concrete channels, trapezoidal reclamation channels and bed cleaning. Physical intervention measures have direct positive impacts on human health and population safety by reducing flood risk. Masonry or concrete channels prevent flooding from damaging residential areas by diverting flood waters along the designated route, thus ensuring the safety of the population during evacuation processes and preventing post-flood epidemics. Trapezoidal reclamation channels prevent loss of life and damage to infrastructure caused by flash floods by widening river beds and controlling flood flow. Bed cleaning, on the other hand, controls water flow through regular cleaning of river and stream beds and protects public health by preventing accumulated waste and mud from causing harmful microorganisms to grow. Such physical interventions are important components of flood management, minimising loss of life and disease risks and improving the quality of life of the population. Non-structural measures provide important strategies for reducing flood risk and minimising its impacts. The development of gauging networks such as Current Observation Stations (COS), Sediment Observation Stations (SSS) and Meteorological Observation Stations (MOS) improves the accuracy of flood forecasts and enables early intervention. The establishment of early warning systems helps to prevent loss of life and property by enabling the public living in areas under flood risk to be informed in a timely manner. Training and awareness-raising activities raise public awareness of flood hazards and encourage taking the right precautions in times of crisis. Monitoring and protection of flood traces contributes to more accurate prediction of future flood risks by analysing the data obtained from past flood events. These measures provide a holistic approach to flood management, creating a more effective response capacity at both individual and institutional level.

6.4. Socioeconomics

Floods have a wide range of direct and indirect negative impacts on economic activities. The physical destruction caused by floods leads to serious losses on elements of economic value such as settlements, infrastructure systems, agricultural lands and industrial facilities. This situation both increases short-term damage costs and has negative consequences in the long term, such as production losses, labour force losses and slowdown in regional economic growth.

When the measures to be taken are evaluated at the socio-economic level, there will be a need for fixed-term employees during the construction activities to be carried out in order to take structural measures. It is expected to provide economic gain to the local people during the execution of these construction activities.

6.5. Ecosystems and Biodiversity

Flood management plans can have both positive and negative impacts on biodiversity, flora and fauna. When implemented effectively, it makes significant contributions to the protection of natural habitats, ensuring the sustainability of wetlands and preventing flood damage to sensitive species. With proper planning, creating flood buffer zones and strengthening biological corridors supports the integrity of ecosystems by protecting species habitats. In

addition, rapid restoration of post-flood habitats prevents species from being under stress and ensures the continuity of natural cycles.

However, improper planning and practices can lead to disruption of natural flood dynamics, habitat fragmentation and damage to ecosystems. In particular, flood prevention structures narrowing natural areas or affecting wetlands may have negative impacts on biodiversity. This may increase the risk of extinction of endemic and sensitive species and lead to deterioration of ecological balances in the region. The map of protected areas and river network in the Meriç Ergene Basin was evaluated together with the measures (structural and non-astrucrural) prepared in line with the Flood Risk Management Plan. Considering the river network in the basin and draft measures, the areas that may be affected by flooding are Kavaklımeşe Korusu Nature Park, Istanbul Çatalca Çilingöz, Meriç Delta and Gala Lake (Figure 59). The issues to be considered in minimising the negative impact of the measures on the ecosystem and biodiversity by taking into account the flood propagation areas given in the prepared Q100 and Q500 maps are as follows:

- Flood Traps :The construction of flood traps can help protect the surrounding natural ecosystems by reducing the severity of floods. These structures support the protection of aquatic habitats and wetlands by allowing water to flow in a more controlled manner. However, the construction of these structures may require land levelling and excavation, which may result in the destruction of local landscape elements. In particular, the destruction of vegetation and natural watercourses can have a negative impact on the ecosystem in the short term.
- Crossing Structure Improvements (Bridge, Culvert): Improving crossing structures allows the free flow of water and reduces the negative impacts of flooding. This can be beneficial for aquatic ecosystems because waterside habitats are protected and biodiversity remains sustainable. However, the construction of these structures may involve changes to the existing landscape and temporary damage to some ecosystems is likely. However, the restoration of the pre-flood natural balance by the crossing structures will have a positive impact on the ecosystem in the long term.
- Bed Regulations (Masonry or Concrete Channel, Trapezoidal Improvement Channel): Bed adjustments help prevent flooding and provide a smoother flow of water. In this way, the development of aquatic vegetation is supported and the health of aquatic ecosystems is protected. However, some landscape elements may be destroyed during bed adjustment works, especially vegetation and aquatic habitats in the beds may be damaged. Nevertheless, these adjustments have positive impacts on ecosystems in the long term by reducing flood severity and allowing the development of new habitat areas.
- Bed Cleaning: Bed cleaning is done to prevent flooding and ensure the free flow of water. This helps ecosystems to continue in a healthy way by reducing the negative effects of floods on the ecosystem. However, during the cleaning process, vegetation and animal species living in the beds may be damaged. This process may lead to habitat loss in the short term. When the bed cleaning works are completed, water ecosystems can become healthier and ecological balance can be restored.
- Non-structural Measures (Early Warning Systems, Education and Awareness Raising Activities): Although early warning systems and education efforts do not have a direct impact on ecosystems and biodiversity, they can help us better understand environmental impacts to better manage flood risk. These measures help local people to be better prepared for floods and can reduce the impacts of floods on the environment. However, the implementation of these measures has a less tangible impact compared to physical structures and does not directly change the ecosystem. Nevertheless, the implementation of these measures provides long-term benefits for the environment and natural habitats.

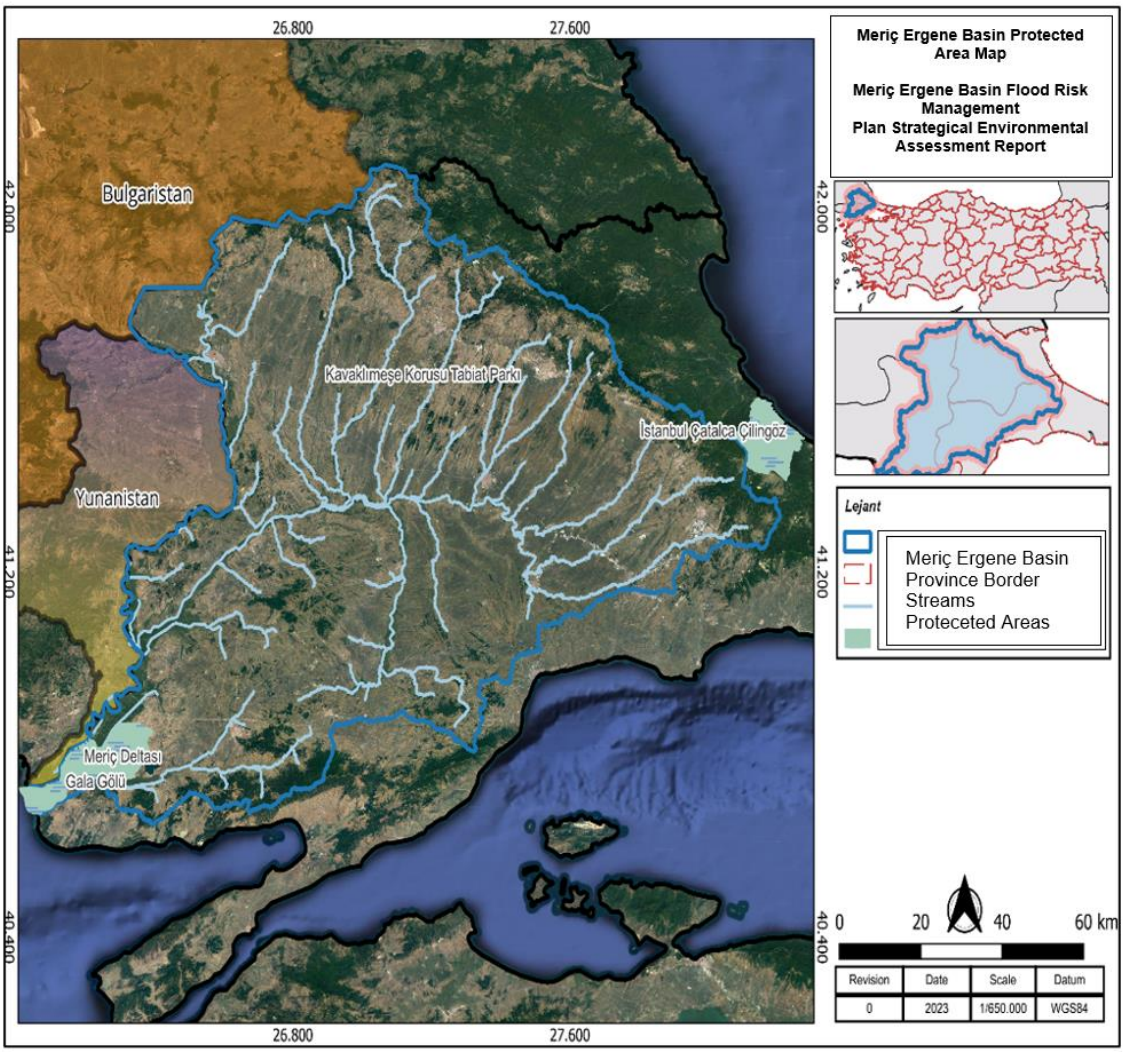

Figure 59 . Meriç Ergene Basin River Network and Protected Areas

6.6. Climate Change

There is a bidirectional relationship between climate change and floods. Floods indirectly contribute to climate change, while climate change increases the frequency and severity of floods, creating major risks on a global scale. The transport of large amounts of organic matter and sediments during floods can lead to greenhouse gas accumulation by increasing the release of methane and carbon dioxide in aquatic systems. Furthermore, the destruction of wetlands and forested areas due to floods can negatively affect the carbon cycle by reducing carbon storage capacity. On the other hand, disrupted precipitation regimes and increased sudden precipitation due to climate change increase the risk of flooding, and the rise in sea level increases the severity of floods in coastal areas. The decrease in the permeability of the soil surface during drought periods further increases the destructive effect of floods caused by sudden rainfall. Future climate change projections indicate that the frequency and severity of floods will increase, making flood management more complex, especially in hydraulically vulnerable areas. Problems such as depletion of water resources and post-flood pollution will pose serious threats to human health, agricultural activities and natural ecosystems.

The prepared Flood Risk Management Plan will be a critical tool in mitigating the interaction between climate change and floods. This plan ensures more effective management of impacts such as heavy rainfall and sea level rise expected in the future by taking into account climate change scenarios. Sustainable infrastructure approaches such as protection of natural floodplains, green infrastructure practices and rehabilitation of wetlands contribute to combating climate change by increasing carbon storage capacity. In addition, controlling post-flood pollution, establishing early warning systems and strengthening disaster management processes in the measures taken within the scope of the flood management plan reduce the negative impacts of floods. Raising the awareness of the society on the relationship between climate change and floods enables the mitigation of risks and more effective implementation of policies.

6.7. Geology and Soil

Floods can cause landslides, erosion and ground deformations by destabilising the ground. This may cause permanent damages on agricultural lands, settlements and infrastructure. In addition, sediments carried by floods can cause changes in geological formations and disruption of natural processes on river beds and alluvial plains.

With the measures to be taken, the negative effects of floods can be reduced and soil stability can be maintained. Flood management measures have both positive and negative impacts on geology and land use. Structural measures help to protect agricultural land by reducing soil erosion, increase soil stability and ensure the safety of residential areas. In addition, the organisation of watercourses and crossing structure improvements contribute to the stability of local infrastructure by preventing landslides. These measures minimise the negative impacts of flooding by providing safer use of residential and agricultural areas.

However, negative impacts such as destruction of natural habitats, changes in soil structure and restrictions on land use may also occur during construction. Landslides and ecosystem destruction may occur especially during bed regulation and channel rehabilitation works. In addition, the use of agricultural and residential areas may be restricted in areas where flood traps are constructed. Therefore, careful implementation of flood management measures will ensure that negative impacts can be minimised and will contribute to achieving positive results on land use and geological structure in the long term.

6.8. History and Cultural Heritage

Floods can cause irreversible and permanent damages on historical and cultural heritage areas. In particular, historical buildings, monuments, archaeological sites and other elements of cultural value are directly damaged by the physical impact of floods, while indirectly experiencing long-term deterioration. Flood elements such as inundation, erosion, landslides and transported chemical pollution cause significant losses by weakening the structural integrity of the structures in these areas. At the same time, post-flood humidity and dampness adversely affect the material durability of historical monuments and increase repair and conservation costs.

Archaeological sites face the risk of damage to the cultural layers on the surface by alluvial deposits or landslides carried by floods. In addition, biological and chemical pollutants brought by floods reduce the potential for scientific research by disrupting the environmental and cultural integrity of these areas. In addition, the flooding of cultural heritage areas causes losses in the regional economy by negatively affecting tourism revenues.

In this context, the Flood Risk Management Plan is of vital importance for the protection and sustainability of cultural heritage. Creating risk maps and determining the sensitivity of cultural heritage areas to flood risk are the basic steps for the protection of these areas. Measures that can be taken in historical and cultural heritage areas in line with the Flood Risk Management Plan are flood traps, bridges and culverts, as well as bed adjustment works and bed cleaning.

6.9. Landscape Areas

Floods cause serious damage to natural and man-made landscapes, negatively affecting their aesthetic, ecological and economic values. Natural floodplains, wetlands, agricultural lands, forested areas and urban green areas are the most vulnerable landscape elements to the impact of floods. While erosion, silt accumulation and soil loss caused by floods disrupt the structural integrity of the landscape, pollutants carried by flood waters cause destruction of vegetation and disruption of ecosystem balance. Especially in sensitive ecosystems such as wetlands, excessive water pressure caused by floods can cause these areas to lose their ecological functions such as biodiversity and carbon storage.

In urban landscape areas, parks, recreation areas and other green infrastructure elements are flooded due to floods, causing both physical damage and temporary loss of use. This situation leads to disruption of social life, decrease in the quality of life of the inhabitants and economic losses. Long-term impacts of floods on landscapes include reduced soil fertility, degradation of natural vegetation and loss of aesthetic values.

The Flood Risk Management Plan is a vital tool for the protection and sustainable management of landscapes. Within the scope of this plan, the protection of natural floodplains, rehabilitation of wetlands, expansion of forested areas and encouragement of green infrastructure practices ensure that landscapes are resilient to floods. In addition, measures for erosion control, improvement of drainage systems and protection of natural vegetation are critical for the continuity of the physical and ecological values of the landscape. In urban landscapes, the negative effects of floods can be minimised through regular maintenance and resilience enhancing works. For these purposes, measures such as flood trap / reversal dam, bridge, culvert, masonry or concrete channel, trapezoidal reclamation channel, bed cleaning can be taken. However, although certain landscape elements need to be cleared within the scope of upper catchment measures (flood traps and revetment dykes) and bed adjustment activities while taking these measures, the reduction of flood risk will ensure the protection of the landscape in the long term. Improvement of crossing structures and non-structural measures do not involve physical intervention and therefore do not have a negative impact on the landscape. Bed clearance works indirectly contribute positively by minimising the damages of floods on the landscape.

7. MEASURES FORESEEN FOR SIGNIFICANT IMPACTS THAT MAY OCCUR ON THE ENVIRONMENT DUE TO THE IMPLEMENTATION OF THE PLAN

Implementation of the Flood Risk Management Plan will have various impacts on the natural environment and human activities. With the implementation of the Plan, the management of water resources, protection of ecosystems, land use and infrastructure development processes will be directly affected. In this process, in order to reduce flood risk and ensure environmental sustainability, it is important to protect the natural water cycle, avoid negative impacts on existing ecosystems and adopt strategies compatible with climate change. In this context, it is necessary to minimise the possible environmental impacts that may arise in the flood management process and to take measures to protect the natural balance. In this section, the impacts of the measures defined in the section6 on the environment that may occur during the implementation of the plan are analysed and the measures proposed to manage these impacts are discussed.

7.1.1. Water Resources (Surface and Underground)

- Carrying out monitoring studies for the effective management of MOS and COS stations in the basin,
- Increasing the number of technical personnel and providing training to the personnel in order to improve the measurements at COS stations,
- Installation of specialised flood early warning systems,
- Ensuring the use of natural and permeable materials as much as possible instead of concrete in the works to be carried out within the scope of structural measures,
- Harmonisation with national legislation to minimise construction impacts that may arise during the implementation of structural measures,
- Completion of all authorisation processes within the scope of legal regulations before the implementation phase of structural measures,
- Regular monitoring of discharges that may have an impact on the regime of rivers,
- Carrying out studies to prevent activities that will change the physical and chemical properties of rivers,
- Preventing activities that may cause deterioration of the physical structure of stream beds or carrying out studies to control these activities,
- Prevention of material intake from stream beds,
- Regular monitoring of pollutant parameter loads to ensure sustainability in the basin,
- Providing training to the staff in order to carry out monitoring activities effectively and to supervise the implementation of the measures,
- It is recommended to update the scope of the measures, if necessary, in line with the changes that may occur in national legislation through monitoring activities, observation of the negative effects of the measures, complaints received and other developments.

7.1.2. Population and Human Health

- Creating a buffer zone around flood propagation areas throughout the basin and using these areas as green areas (parks, social facilities, etc.),
- Not allowing settlement in areas with flood risk, taking flood risk into consideration within the scope of urban and regional planning studies,
- Not allowing settlements in stream beds within the scope of zoning plans,
- Preparation of zoning plans by taking into consideration the identified and declared flood areas, prevention of practices that will interfere with stream beds,

- Preventing practices that will interfere with the river beds in the city or in the natural environment, not taking the river beds into the canal,
- Regular monitoring of the sediment reaching the stream beds and cleaning works within the scope of the narrowing of the stream beds,
- Not to leave the weeds cleared during pruning in pasture or forest areas to the stream beds, and to carry out regular monitoring activities in this context,
- In order to prevent the effect of rainfall on the flow during periods of heavy rainfall, the construction of storages at certain points of the city where rainwater can be kept for a while,
- Use of sustainable and environmentally friendly materials within the scope of reclamation works,
- Harmonisation with national legislation to minimise construction impacts that may arise during the implementation of structural measures,
- Completion of all authorisation processes within the scope of legal regulations before the implementation phase of structural measures,
- Installation of specialised flood early warning systems,
- It is recommended to identify flood risk areas in advance and to prepare disaster plans in this context.

7.1.3. Socio-Economics

- Determining the economic losses caused by flooding in the basin and taking measures to prevent these losses,
- Identify people who have permanently lost their livelihoods due to flooding and provide support to rebuild their livelihoods,
- It is recommended to carry out training and information activities aimed at raising public awareness on flooding.

7.1.4. Climate Change

Since the negative impact of the Plan on climate change is not expected, no measures have been identified. However, looking at the positive impacts, the Flood Risk Management Plan will be a critical tool in reducing the interaction between climate change and floods. This plan ensures more effective management of impacts such as heavy rainfall and sea level rise expected in the future by taking into account climate change scenarios. Sustainable infrastructure approaches such as protection of natural floodplains, green infrastructure practices and rehabilitation of wetlands contribute to combating climate change by increasing carbon storage capacity. In addition, controlling post-flood pollution, establishing early warning systems and strengthening disaster management processes in the measures taken within the scope of the flood management plan reduce the negative impacts of floods.

7.1.5. Geology and Soil

Structural measures to be implemented under the Flood Risk Management Plan will have various impacts on the geological and soil structure of the basin. In particular, land morphology, soil characteristics and ground water levels should be taken into consideration during the construction of flood protection structures. Controlled excavation and filling processes should be carried out in order not to disturb the natural drainage systems and increase soil erosion.

In addition to this, it is recommended to use meteorological and hydrological observation data based on many years in order to analyse the hydrological processes in the basin in a healthy way. Considering the flow regime and flood recurrence flows of the rivers, it should be ensured that the interventions to be made do not harm the natural water flow. In addition, it is of great importance to evaluate old and new landslide areas and to carry out stability analyses to prevent landslides.

In the design process of flood protection structures, a holistic planning approach should be adopted by considering the topographic, geotechnical and hydrological characteristics of the region. In this direction, data sharing should be increased by ensuring coordination among relevant institutions and engineering solutions that will minimise environmental impacts should be developed.

7.1.6. Land Use and Infrastructure

Measures taken under the Flood Management Plan can have both positive and negative impacts on land use and infrastructure. Limiting new construction in areas with high flood risk and utilising floodplains as parks, green areas or water discharge areas in development plans will increase the safety of residential areas. However, the construction of flood prevention structures may result in the loss of natural areas such as agricultural lands, pastures and forested areas. In order to minimise such negative impacts, it is necessary to obtain the necessary permits within the framework of the relevant legal regulations and to implement measures to protect the environmental balance. In all works to be carried out in this regard:

- Pasture Law No. 4342,
- Law No. 5403 on Soil Conservation and Land Use,
- Forest Law No. 6831

necessary permits from the relevant administrations and coordination should be ensured. In terms of infrastructure, flood control structures may intersect with existing water, electricity, sewerage and telecommunication lines in the region. Since this situation may cause disruptions in infrastructure services, it is important to coordinate with the relevant institutions and carry out the necessary displacement operations. In addition, the establishment of an independent storm water drainage system in areas under flood risk will be effective in reducing flood and flood impacts. In order for the measures to be taken within the scope of flood management to be effective in the long term, it is necessary not to allow construction on river beds in urban transformation projects, to limit hazardous chemical production and storage in flood areas, and to avoid practices that increase flood risk in agricultural activities. Thus, it will be possible to minimise flood damages and ensure sustainable land use.

7.1.7. Ecosystems and Biodiversity

The Meriç River, Ergene River and their tributaries within the basin are of critical importance for the ecosystem balance of the region. Structural and non-structural measures to be taken within the scope of flood management should be planned in a way to protect natural life.

It is of great importance that flood control structures and other engineering applications to be constructed in the basin should be designed by taking into consideration the characteristics of rivers such as cross-section, flow, depth and biological diversity. In this context, necessary assessments should be made with the support of biologists and ecologists. The impacts on Lake Gala National Park, Meriç Delta and other important natural areas in the basin should be

determined in advance and coordinated with the General Directorate of Nature Conservation and National Parks.

The points to be considered during the implementation phase of the measures taken in the Flood Risk Management Plan are given below:

- Minimising possible damages on biological systems by ensuring the construction of flood prevention structures without intervening in the river bed within the scope of flood management,
- Limiting the use of concrete pavement during stream rehabilitation works, reducing the negative impacts on aquatic life by applying it only at the points deemed necessary,
- Carrying out construction activities in appropriate time periods, especially considering the breeding periods of fish species,
- Using methods that will preserve the natural structure of the stream during stream cleaning, removing only harmful material deposits,
- In all kinds of studies to be carried out in the basin, expert biologists should be assigned to identify the species and obtain the opinion of the General Directorate of Nature Conservation and National Parks,
- Use of sustainable flood prevention structures and methods that will not disturb the physical and chemical properties of the stream bed,
- Minimising negative environmental impacts such as dust and noise that may occur during construction activities in accordance with national legislation,
- Carrying out flood prevention projects in coordination with the works for reducing the existing water pollution in the Ergene River,
- Obtaining all legal permits in full prior to the implementation of structural measures and acting in co-operation with relevant institutions.
- Within the scope of non-structural measures, carrying out awareness raising activities against flood disasters, raising awareness of local people and developing emergency response plans will indirectly contribute to the protection of biological diversity.

7.1.8. Historical and Cultural Heritage

Structural and non-structural measures determined within the scope of the Flood Risk Management Plan will be carried out in coordination with the relevant institutions when the project design phase is started. In this context, necessary permissions will be obtained by applying to the Ministry of Culture and Tourism for all areas in the project area, and the opinion of the Directorate of Nature Conservation and National Parks will also be requested.

Care will be taken against possible cultural heritage elements when excavation works are required during upper catchment measures (e.g. construction of flood traps, revetment dams), bed adjustment and cleaning operations to be carried out within the framework of the Flood Risk Management Plan. In this direction:

- Permission shall be obtained from the Ministry of Culture and Tourism and the relevant Regional Board for the Protection of Cultural Assets before any physical or constructional intervention in registered cultural assets and protected areas.
- In the event that a cultural asset is encountered during the works to be carried out in unregistered areas, the works will be stopped immediately in accordance with Article 4 of the Law No. 2863 on the Protection of Cultural and Natural Assets and the nearest museum directorate and the local administrative authority will be informed as soon as possible.

- In the event of incidental cultural findings, the works will be carried out in accordance with the instructions of the Regional Board for the Protection of Cultural Assets and will continue in line with the guidance of the relevant experts.
- In addition, improvement of crossing structures such as bridges and culverts is planned. In this process
- No structural modifications will be proposed for structures of historical and cultural importance, only cleaning, maintenance and opening of closed bridge eyes.
- The protection and organisation of such structures will be carried out under the supervision of the Regional Board for the Protection of Cultural Assets.

8. A DESCRIPTION OF HOW THE ASSESSMENT WAS CARRIED OUT AND THE DIFFICULTIES ENCOUNTERED IN COMPILING THE REQUESTED INFORMATION (SUCH AS TECHNICAL INADEQUACIES OR LACK OF TECHNICAL EXPERTISE); A DESCRIPTION OF DATA AND INFORMATION DEFICIENCIES AND HOW THEY WERE ADDRESSED IN THE ASSESSMENT

During the preparation of the Flood Risk Management Plan, a lot of data was needed during the basic analyses and modelling phase. The detailed studies and the difficulties encountered during these studies are summarised below:

During the preparation of the Preliminary Flood Risk Assessment (PFRA) Report, it is observed that settlements, especially neighbourhoods, are very dense in some places in the Meriç-Ergene Basin. The existing settlement boundaries in CORINE 2018 data cannot be used due to the inability to provide the necessary detail in the distinction of very dense neighbourhoods. Some neighbourhood boundaries cannot be determined due to the insufficient number of polygons and insufficient detail in CORINE data. Due to the inability to determine the boundaries of the neighbourhoods, a single polygon was created to cover the entire district centre and its neighbourhoods by using satellite images instead of CORINE 2018 data. Another difficulty encountered is that some settlements are scattered and if they are drawn as a single polygon, it will cause the empty lands to be considered as if there is a population. For this reason, the boundaries of such settlements were drawn as two or more polygons and the population of the settlement was divided according to the areas of the polygons. In this report, flood risk areas and streams have been identified within the boundaries of the Meriç-Ergene Basin according to the criteria specified in the technical specifications. Many geographical information such as the river network in the basin, topographical maps, past flood events and traces were used to determine the risky areas. In addition, data such as population data of settlements, alluvial maps obtained from public institutions, art structures that narrow the stream cross-section or obstruct the flow and the characteristics of these structures were utilised. In addition, field surveys were carried out throughout the basin and flood events were verified by field visits of the relevant institutions. All 660 settlements were evaluated according to this data and as a result, it was revealed whether the settlements have flood risk or not. According to the evaluations, 319 settlements were found to be at risk of flooding. It was determined that approximately 2905 km of hydrodynamic modelling work is required.

Hydrology calculations were made at 823 different points in the basin to provide a basis for hydrodynamic modelling, and detailed hydrological modelling was performed at 32 of these points using the HEC-HMS model. In hydrological analyses, flood flows and hydrographs were calculated according to 2, 5, 10, 25, 25, 50, 100, 500, and 1000 year recurrence periods. Hydrodynamic modelling was performed considering 10, 50, 100, 500, and 1000 year flood flows as specified in specifications.

Within the framework of the project, hydrodynamic modelling studies were carried out by using the latest computer technologies in order to determine the flood spreading areas for each stream with flood risk, to determine the water height and velocity at the time of flood, to evaluate the capacity of the stream bed, to prepare flood water depth and hazard maps. Cross sections were taken in the field in order to represent the stream beds in the best way, and the maximum distances specified in the technical specifications were taken into consideration while determining the locations of the cross sections. Considering the changes that may occur in the stream bed, cross-section intervals were reduced and tightened in necessary areas. In

addition, in order to accurately reflect the art structures to the model, at least two sections were taken from the front and back of these structures to ensure the conformity of the modelling studies to reality. Detailed on-site surveys of all art structures on the stream bed were taken and processed into the model.

Within the scope of hydrodynamic modelling, 512 1-Dimensional (1D) and 267 2-Dimensional (2D) or Integrated 1D/2D models were created using HEC-RAS software. At the same time, 18 2-Dimensional hydraulic modelling studies were carried out specifically for agricultural lands and detailed examination was provided. As a result of modelling studies, flood spreading areas were determined and flood risk calculations were made accordingly. Structural and non-structural measures were determined for each settlement for which flood risk maps were created.

Within the scope of the project, many meetings were held with the local administrations and it was possible to optimise the model results and calculations. However, detailed calibration of the models was not possible due to the lack of detailed and comprehensive information on past floods. Another factor affecting the calibration and validation studies is that the basin has transboundary rivers. Sufficient data could not be obtained from Bulgaria and Greece, which are upstream countries.

Within the scope of hydrological data and mapping data, even if the relevant data could not be obtained due to the inability to obtain data from the stakeholder countries or to agree on flight or field mapping, it was aimed at completing the studies in the most accurate way by using global data sets. With this understanding, global data sets were utilised by producing additional ways and the studies in the basin could be completed.

9. OUTLINE OF THE CONSULTATION MEETING (LOCATION, DATE, PARTICIPANTS), THE VIEWS EXPRESSED AT THE MEETING AND HOW THESE VIEWS THE FINAL VERSION OF THE PLAN

SEA Consultations

Article 11 of the "Regulation on Strategic Environmental Assessment", which entered into force after being published in the Official Gazette dated 08.04.2017 and numbered 30032, explains the provisions regarding the Consultation Meeting. "Consultation meeting ARTICLE 11 - (1) After the Draft SEA Report is prepared, the competent authority shall hold a consultation meeting to receive opinions on the report. (2) The competent authority shall publish an announcement stating the date, time, place and subject of the meeting on its website and in a newspaper defined as a widespread periodical at least ten calendar days in advance. The date and place of the consultation meeting shall be notified in writing to the Ministry and the institutions/organisations related to environment and health. (3) At the consultation meeting, the competent authority shall be obliged to record and sign the opinions of the participants. (4) The representative of the Ministry shall attend the consultation meeting to follow the procedure and to express his/her opinions. The secretariat service related to the consultation meeting shall be carried out by the competent authority and the minutes of the meeting shall be submitted to the Ministry. (5) The competent authority shall add its reasoned explanations on whether it has taken the opinions under minutes into consideration during the plan/programme preparation process and the positive or negative conclusions reached in the evaluation to the Scoping Report and SEA Report. (6) The Ministry may request the Consultation Meeting to be renewed if it detects a situation contrary to the procedures and principles related to the Consultation Meeting. (7) The competent authority may organise more than one consultation meeting at different stages of the SEA process, in consultation with the Ministry." Within the scope of the Draft SEA Report; Consultation Meeting will be held in order to receive the opinions and suggestions of all stakeholders such as Institutions / Organisations related to Environment and Health, representatives of provincial organisations of Institutions / Organisations in Meriç Ergene Basin, representatives of local administrations, representatives of universities in the region, members of non-governmental organisations, local people etc. The date and place of the meeting will be announced as specified in the regulation. In this process, the SEA consultation meeting date is 29.05.2029 and all opinions and suggestions submitted in writing at these meetings will be examined and added to the Final SEA report and will be taken into consideration in the SEA and Flood Risk Management Plan.

Scoping Consultations

Within the scope of Activity 4.2 Strategic Environmental Assessment Scoping Consultation meeting, representatives of central and basin scale institutions and organisations came together in Edirne on 13 November 2023. The meeting started with the opening speech of Ms Gönül Ertürer, Project Director. Ms Ertürer started her speech by thanking the General Directorate of Water Management, the Final Beneficiary of the project. She then stated that the Ministry of Environment, Urbanisation and Climate Change, which is the Contracting Authority of the project, could not attend the meeting today, but they made a significant contribution to the work with their support at every stage of the project. Following Mr Ertürer's speech, the meeting continued with the opening address of Mr Maruf Aras, Deputy Director General of Water Management. Mr Aras started his speech by emphasising that water has a critical importance for the survival of all living things. He mentioned important points about the purpose and development of the project. Following the opening speeches, Mr Deniz İtibar, Project Team Leader, gave a presentation to the participants, providing detailed information

about the project. The meeting continued with the presentation of Ms Merve Arslan from the Project Technical Assistance Team. Ms Arslan informed the participants about the contents of the Draft Scoping Report for Strategic Environmental Assessment. The presentation covered in detail the purpose of the meeting, the Strategic Environmental Assessment (SEA) Regulation, the SEA Draft Scoping report and the work planned by the project in this regard. Details of the meeting and the comments on the Scoping Report can be found in Table 50

Table 50 .Comments, Evaluations and Feedback from the SEA Team at the Scoping Meeting

Institution	Opinion No	Opinion	Feedback by the SEA Team
11th Regional Directorate of State Hydraulic Works (Ministry of Agriculture and Forestry)	1	Based on the presentation made at the Strategic Environmental Assessment Scoping Meeting of the Meriç Ergene Basin Flood Management Plan Preparation Project, it was stated that Dupnisa Cave and Floodplain Forests are not located within the borders of the Meriç-Ergene Basin. Regarding their geographical boundaries, it was informed that Dupnisa Cave and Floodplain Forests are located within the borders of Marmara Basin.	Based on the comments received, the information on protected areas under 3.1.2. has been updated.
Environment, Urbanisation and Climate Change	2	Within the framework of the examination of the Meriç Ergene Basin Flood Management Plan Strategic Environmental Assessment Draft Scoping Report, additions were made to the plans under the title of Related Plans / Programmes link. The development of the alternatives section by giving examples, the alternative of doing nothing and the updating of the next stages heading have been communicated.	Related Plans/Programmes link, Description of Alternatives, Next Steps headings have been updated.
11th Regional Directorate of State Hydraulic Works (Ministry of Agriculture and Forestry)	3	Based on the presentation made at the Strategic Environmental Assessment Scoping Meeting of the Meriç Ergene Basin Flood Management Plan Preparation Project, it was questioned that the wastewater of the Organised Industrial Zones is given to the sea discharge system and it was emphasised that these zones should be evaluated within the studies carried out specifically for the Meriç-Ergene Basin. It was also stated that the pollution factors mentioned in the basin should be taken into consideration with the measures to be taken within the scope of the Flood Management Plan.	Opinion accepted. Necessary adjustments were made in the Scoping Report.

Institution	Opinion No	Opinion	Feedback by the SEA Team
11th Regional Directorate of State Hydraulic Works (Ministry of Agriculture and Forestry)	4	Clarification was requested on the issue of flood protection facilities triggering climate change. He stated that from a socio-economic point of view, floods in the Evros-Ergene basin have been observed to play a rapprochement role in the relationship between Greece and Türkiye. He suggested that this issue be addressed in detail in the report .	Opinion accepted. Necessary adjustments were made in the Scoping Report.
Tekirdağ Provincial Directorate of Culture and Tourism	5	Based on the presentation made at the Strategic Environmental Assessment Scoping Meeting of the Meriç Ergene Basin Flood Management Plan Preparation Project, it was questioned whether the planned electricity generation project in the Meriç River would have a positive impact on flood prevention.	It was stated that this project is a facility designed within the scope of unlicensed energy generation and is not a flood prevention measure, but at the same time it is unlikely to cause flooding.
Kırklareli Provincial Directorate of Agriculture and Forestry	6	Nalbant questioned whether the great plain protection areas are included in the scope of the study.	
Edirne Municipality	7	The effect of the newly constructed canal in Karaağaç region on flood prevention was questioned. It is stated that the canal is planned to pass a flow rate of 2500 cubic metres with bypass channels and the aim of the project is to minimise floods, not to prevent them completely.	
Water Institute of Türkiye (SUEN)	8	He emphasised that international cooperation is important since the Meriç-Ergene rivers are transboundary waters, but added that it is not easy to ensure international coordination under the current conditions. He questioned whether the flood water can be bypassed completely in case the flood flows increase up to 10 times during flood periods.	There are dikes on the Meriç River within the scope of structural measures. It was stated that the aim of the Early Warning System is to ensure that these areas are evacuated 1-2 days before the flood. Therefore, it was emphasised that this structural measure is useful. It was also added that the mentioned areas are covered by the flood law 4373. It was also stated that the problems arising from the dams constructed by Bulgaria in the Arda basin and the contacts with Bulgaria aim to prevent the uncontrolled release of water in the Arda River by using flood warning systems.

Institution	Opinion No	Opinion	Feedback by the SEA Team
TEMA Edirne Provincial Representative Office	9	At the Strategic Environmental Assessment Scoping Meeting organised within the scope of the Meriç Ergene Basin Flood Management Plan Preparation Project, a special emphasis was placed on irrigation activities and the importance of assessing the negative impacts of paddy stubble burning on the environment and habitats was also emphasised.	It was stated that the pollution problems in the basin are affected by floods and the importance of including this environmental problem in the plan was emphasised. In line with the comments received, the information under the heading 3.1.1.2. has been updated.
General Directorate of Turkish State Railways	10	The institution has successfully completed the high speed train project and declared that there is an existing conventional line. The Authority stated that the works were carried out in accordance with the Q500 standard considering the easy flow of water during the construction of the line. Once the works are completed, feedback is expected from local authorities to get information about the measures taken in this regard in the region.	

10.CONCLUSION - A SUMMARY OF THE MAIN RECOMMENDATIONS TO BE TAKEN INTO ACCOUNT IN THE IMPLEMENTATION OF THE PLAN AND DECISION-MAKING

Basin level management practices initiated in line with the European Union's "Directive on the Assessment and Management of Flood Risks" numbered 2007/60/EC have also been adopted in Türkiye and it is aimed to effectively manage flood risks on basin basis.

By Presidential Decree, the Ministry of Agriculture and Forestry has been made responsible for the coordination of flood management at national and international level. The Ministry works in co-operation with other relevant public institutions and stakeholders on flood management. In this context, the main competent authorities include the Ministry of Environment, Urbanisation and Climate Change, Ministry of Health, Ministry of Interior and local authorities.

Within the scope of the "Technical Assistance Project for the Preparation of the Flood Risk Management Plan for the Meriç-Ergene Basin", the contracting authority is the Department of European Union Investments of the Ministry of Environment, Urbanisation and Climate Change and the final beneficiary is the General Directorate of Water Management of the Ministry of Agriculture and Forestry. The project is implemented by a consortium formed by DAI, SU-YAPI Engineering and Consultancy Inc., SU PEK Proje, SUMODEL Engineering and Consultancy Ltd. Şti. and ÇINAR Engineering and Consultancy Inc.

The implementation of the Flood Risk Management Plan aims to positively manage the impacts of flooding on human health, soil, environment, natural assets, protected areas, cultural heritage and social and economic activities. However, it is foreseen that the implementation may have some negative impacts and necessary measures and precautions have been determined in order to eliminate or minimize these impacts.

Within the scope of the Strategic Environmental Assessment, the objectives, scope, legal basis and environmental impacts of the Flood Risk Management Plan were analyzed in detail. In the assessment process, water resources, human health, socio-economic structure, climate change, geology, soil structure, land use, infrastructure, ecosystem and biodiversity, historical and cultural heritage and landscape elements were taken into consideration.

As a result of the assessment of the objectives, it is seen that the Flood Risk Management Plan will provide significant gains in terms of public health, welfare and safety. In particular, the positive impacts of the implementation of the plan on the ecosystem, biodiversity, community health and livelihoods in the Meriç Ergene basin on critical environmental and health issues were found to be significant.

In this context, the measures to be taken against flood risk within the framework of the Flood Risk Management Plan have been assessed and the measures recommended by the Strategic Environmental Assessment against these measures are given in this report. The measures recommended by the Strategic Environmental Assessment are intended to increase the effectiveness of the Flood Risk Management Plan and it is important that these measures are implemented in order to make flood management more efficient and maximise the positive impacts on public health. The impacts of the Flood Risk Management Plan and the environmental measures to be taken within the scope of this plan are summarized in the table below.

Table 51. Flood Risk Management Plan Measures and Their Environmental Impact

Measure	Environmental Impact / Significance
Improvement of Crossing Structures	Regulates water flow and reduces flood risk; supports biodiversity by maintaining habitat connectivity.
Embankment Regulation / Construction	Protects settlements; however, isolation of natural floodplains can lead to biodiversity loss. Environmentally sensitive designs should be prioritized.
Riverbed Regulation	Reduces flood risk, but interventions altering the riverbed may disrupt ecosystem balance; sustainable practices can minimize habitat loss.
Upstream Basin Measures	Prevents erosion, protects soil and water quality, and reduces floods; preservation of natural vegetation supports ecosystem services.
Riverbed Cleaning	Removes blockages and reduces flood risk; however, excessive intervention may destroy microhabitats—implementation should be controlled and ecologically sensitive.
Flood Forecasting and Early Warning Systems	Reduces loss of life and property while enabling management of environmental risks; early response helps minimize damage to ecosystems.
Education and Public Awareness	Increases environmental awareness in society; supports long-term environmental protection by promoting behavioral changes in sustainable land and water use.

APPENDICES

Table 52. Measures Listed in Draft Flood Risk Management Plan

Measure Group	Measure	Province where the measure will be applied	District where the measure will be applied	Settlement where the measure will be applied	River where the Measure will be Implemented
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Vakıflar	Bademlik Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Vakıflar	Bademlik Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Vakıflar	Karagöl Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Vakıflar	Karagöl Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ergene-2 OIZ	Deve Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ergene-2 OIZ	Deve Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ergene-2 OIZ	Camel Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ulaş	Ergene River
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ulaş	Ergene River
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ulaş	Ergene River
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ergene-2 OIZ	Sazli Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Kırkkepenekli	Hamamgölü Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Aydınköy	Aydin Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Aydınköy	Aydin Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Ballıhoca	Ballıhoca1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Ballıhoca	Ballıhoca1 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Muratlı-Center	Ergene River
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Muratlı-Center	Ergene River
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Muratlı-Center	Ergene River

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Muratlı OIZ	Suvatlar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Muratlı-Center	Çorlu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Muratlı-Center	Çorlu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Muratlı-Center	Çorlu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Büyükkarıştıran	Karıştıran Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Büyükkarıştıran	Karıştıran Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Büyükkarıştıran	Karıştıran Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ergene-1 OIZ	Uğurlu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ergene-1 OIZ	Uğurlu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ergene-1 OIZ	Uğurlu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Erikleryurdu	Erikleryurdu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Arzulu	Bostanlık Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Muratlı	Arzulu	Bostanlık Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Edirne	Uzunköprü	Elmalı	Meadows Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Gazimehmet	Poplar Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Edirne	Uzunköprü	Gazimehmet	Ana Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Istanbul	Çatalca	Hallaçlı	Ambar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Istanbul	Çatalca	Hallaçlı	Ambar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Kapaklı	Yanıkağıl	Dedebal Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Kapaklı	Yanıkağıl	Dedebal Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Pehlivanköy-Center	Pehlivanköy3 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Pehlivanköy-Center	Ergene River
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Akarca	Ergene River
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Kirklareli	Pehlivanköy	Pehlivanköy-Center	Kuleli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Lalapaşa	Lalapaşa-Center	Lalapasa1 Stream

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Lalapaşa	Lalapaşa-Center	Bağlar Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Lalapaşa	Lalapaşa-Center	Hasanaga Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Lalapaşa	Sinanköy	Hasanaga Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Lalapaşa	Sinanköy	Hasanaga Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Lalapaşa	Taşlımüsellim	Sazli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Lalapaşa	Taşlımüsellim	Sazli Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Edirne	Lalapaşa	Çömlekakpınar	Village Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Edirne	Süloğlu	Tatarlar	Tatarlar1 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Süloğlu	Tatarlar	Tekke Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Taşlısekban	Kel Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Taşlısekban	Kel Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Taşlısekban	Seymen Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Taşlısekban	Seymen Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Taşlısekban	Seymen Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Taşlısekban	Seymen Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Hacıumur	Akar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Lalapaşa	Çömlek	Ciftlik Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Lalapaşa	Çömlek	Ciftlik Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Yolüstü	Ciftlik Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Center	Avarız	Deveciköprü Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Center	Avarız	Deveciköprü Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Avarız	Tunca River
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Center	Musabeyli	Kum Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Center	Musabeyli	Kum Stream

Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Center	Karayusuf	Satranç Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Center	Karayusuf	Satranç Creek
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Küçükdöllük	Hasanaga Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Center	Küçükdöllük	Hasanaga Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Korucu	Korucuköy Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Edirne	Center	Korucu	Korucuköy Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Center	Muratçalı	Cömlekakpınarı Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Muratçalı	Cömlekakpınarı Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Center	Muratçalı	Cömlekakpınarı Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Center	Hasanağa	Hasanaga Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Center	Hasanağa	Hasanaga Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Köşençiftliği	Sazli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Center	Sazlıdere	Sazli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Center	Sazlıdere	Sazli Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Tayakadın	Kör Creek
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Center	Tayakadın	Sazli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Geçkinli	Seymen Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Geçkinli	Seymen Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Havsa	Oğulpaşa-1	Village Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Havsa	Oğulpaşa-1	Lake Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Havsa	Oğulpaşa-1	Köy Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Abalar	Köy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Havsa	Azatlı	Yörük Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Havsa	Azatlı	Yörük Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Süloğlu-Center	Ortakaya Stream

Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Süloğlu-Center	Suloglu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Süloğlu-Center	Suloglu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Süloğlu-Center	Ortakaya Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Arpaç	Suloglu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Küküler	Suloglu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Büyükgerdelli	Dikilitas Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Büyükgerdelli	Dikilitas Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Havsa	Köseömer	Kerpiçgölü Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Çukurköy	Kuzucu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Bakışlar	Kuzucu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Havsa	Kulubalık	Kanlıpınar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Havsa	Kulubalık	Kanlıpınar Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Kulubalık	Kanlıpınar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Aslıhan	Aslihan1 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Aslıhan	Sources Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Aslıhan	Şarap Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Aslıhan	Şarap Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Aslıhan	Aslihan1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Aslıhan	Sources Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Tahal	Kuzucu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Hıdırca	Kuzucu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Kumköy	Kuleli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Yeşilova	Ilıman Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Yeşilova	Ilıman Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Yeşilova	Ilıman Stream

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	İmampazarı	Ilıman Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Yeşilova	Kuleli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Kumköy	Kuleli Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Ağayeri	Kuleli Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Kuleli	Inece Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Naipyusuf	Yukarıyalı Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Havsa	Necatiye	Yukarıyalı Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Havsa	Necatiye	Yukarıyalı Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Hazinedar	Teke Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Karahalil	Teke Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Center	Dokuzhüyük	Teke Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Dokuzhüyük	Yalamaclik Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Dokuzhüyük	Yalamaclik Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	İnece	Yenibaglik Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	İnece	Teke Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	İnece	Teke Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	İnece	Yenibaglik Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Kirklareli	Center	Koyunbaba	Maslak Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Center	Koyunbaba	Teke Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Kofçaz	Devletliağaç	Teke Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Kofçaz	Terzidere	Sarptas Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Kofçaz	Terzidere	Sarptas Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Kofçaz	Kofçaz-Center	Gökkaya Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Kofçaz	Kofçaz-Center	Gökkaya Stream

Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Erikler	Erikler Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Erikler	Erikler Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Kirklareli	Center	Paşayeri	Dolhan Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Karacaoğlan	Çimenli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Karacaoğlan	Çimenli Stream
Bed Arrangement	The sections between Km: ???-????, on the stream should be arranged to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Oruçlu	Kanligol Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Kadıköy	Çimenli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Ertuğrulköy	Shepherd Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Ertuğrulköy	Shepherd Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Kuştepe	Kuştepe1 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Kuştepe	Kuştepe1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kuzulu	Monastery Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Koruköy	Korukoy1
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Koruköy	Korukoy1
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Eriklice	Eriklice1
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Eriklice	Eriklice1
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Center	Kırklareli-Center	Pearl Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kırklareli-Center	Kirklareli6 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kırklareli-Center	Kirklareli6 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kırklareli-Center	Kocaköprü Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kırklareli-Center	Kirklareli4 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kırklareli-Center	Kirklareli4 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kavaklı	Kavaklikoy Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Kavaklı	Kavaklikoy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Taşağıl Bucak Centeri	Köy Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Taşağıl Bucak Centeri	Köy Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Kirklareli	Babaeski	Babaeski-Center	Babaeski Stream

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Babaeski-Center	Babaeski Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Babaeski-Center	Kurt Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Babaeski-Center	Kurt Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Kirklareli	Babaeski	Babaeski-Center	Kurt Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Babaeski-Center	Taşlıyılma Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Nadırlı	Babaeski Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Karıncak	Bostanlık Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Center	Karıncak	Kemikli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Karıncak	Bostanlık Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Karıncak	Kemikli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Hamitabat	Kaynar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Hamitabat	Kaynar Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Kumrular	Pancarköy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Kumrular	Pancarköy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Çavuşköy	Karaagac Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Çavuşköy	Karaagac Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Sofuhalil	Kuru Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Sofuhalil	Kuru Creek
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Alpullu	Pancarköy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Alpullu	Pancarköy Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Düğüncülü	Skopje Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Düğüncülü	Skopje Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Sinanlı	Ana Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Sinanlı	Ana Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Kirklareli	Babaeski	Sinanlı	Ana Stream

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Büyükmandıra	Ergene River
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Büyükmandıra	Ergene River
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Büyükmandıra	Tuğlagölü Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Karakavak	Hayrabolu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Osmancık	Kopprüalti Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Celaliye	Celaliye Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Celaliye	Celaliye Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Tatarköy	Kopprüalti Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Tatarköy	Grave Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ayvalı	Yukarıköy Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ayvalı	Yukarıköy Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Sarıcaali	Köy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Pınarhisar-Center	Pinarhisar2 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Pınarhisar-Center	Pinarhisar2 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Pınarhisar-Center	Ambarli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Pınarhisar-Center	Ambarli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Poyralı	Büyük Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Tozaklı	Tozaklı Stream
Upper Basin	A storage area should be established on the upstream side of the stream.	Kirklareli	Vize	Soğucak	Fountain Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Soğucak	Fountain Stream
Upper Basin	A storage area should be established on the upstream side of the stream.	Kirklareli	Vize	Soğucak	Davalipinar Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Vize	Soğucak	Davalipinar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Soğucak	Koru Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Pazarlı	Ana Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Pazarlı	Ana Stream

Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Pazarlı	Bogaz Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Pazarlı	Bogaz Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Vize	Develi	Ana Stream
Transition Structure Improvement	The capacity of the crossing structures located at Km: ??? (27.655145 - 41.646785) on the stream should be renewed to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Vize-Center	Asmakayaları Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Vize-Center	Bağlar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Vize-Center	Tilki Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Vize-Center	Tilki Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Vize-Center	Vize4 Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Kirklareli	Vize	Vize-Center	Vize4 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Vize-Center	Vize2 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Vize-Center	Asmakayaları Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Kirklareli	Vize	Vize-Center	Asmakayaları Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Kirklareli	Vize	Vize-Center	Bağlar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Okçular	Village Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Okçular	Village Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Evrenli	Degirmen Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Evrenli	Evrenli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Evrenli	Degirmen Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Evrenli	Evrenli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Müsellim	Karatepe Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Müsellim	Karatepe Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Çüvenli	Kuru Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Çüvenli	Kuru Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Topçuköy	Bağlaryolu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Topçuköy	Bağlaryolu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Doğanca	Sogucak River
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Doğanca	Sogucak River
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Cevizköy	Sogucak River

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Cevizköy	Sogucak River
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Sütlüce	Sogucak River
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Sütlüce	Sogucak River
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Ataköy	Kaynarca Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pınarhisar	Ataköy	Kaynarca Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Eskitaşlı	Kaynarca Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Turgutbey	Turgutbey2 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Turgutbey	Turgutbey2 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Turgutbey	Kaynarca Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Turgutbey	Poyralı Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Lüleburgaz-Center	Lüleburgaz2 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Lüleburgaz-Center	Tuzlu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Lüleburgaz-Center	Sovanli Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Lüleburgaz-Center	Sovanli Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Lüleburgaz-Center	Burgaz Stream (Lüle)
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Lüleburgaz-Center	Burgaz Stream (Lüle)
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Durak	Burgaz Stream (Lüle)
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Durak	Ergene River
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Durak	Burgaz Stream (Lüle)
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Umurca	Muddy Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Umurca	Muddy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Sakızköy	Killik Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Sakızköy	Tartan Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Sakızköy	Yörük Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Sakızköy	Killik Stream

Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Sakızköy	Tartan Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Sakızköy	Yörük Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ertuğrul	Geren Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ertuğrul	Geren Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Karaağaç	Karaogul Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Karaağaç	Elmac1
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Karaağaç	Tozaklı Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ertuğrul	Tozaklı Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ahmetbey	Fountain Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ahmetbey	Ahmetbey Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Ahmetbey	Ahmetbey Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Evrensekiz	Soycak Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Evrensekiz	Evrensekiz Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Akıncılar	Kavaklar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Vize	Akıncılar	Kavaklar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Sofular	Tekke Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Tekirdağ	Saray	Sofular	Tekke Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Ergene	Pınarbaşı	Pasakoy1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Pınarbaşı	Pasakoy1 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	İğneler	Çamurca Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	İğneler	Çamurca Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Kadıköy	Kuru Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Kadıköy	Kuru Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Kadıköy	Kadikoy1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Kadıköy	Kadikoy1 Stream

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Saray	Osmanlı	Fountains Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Yuvalı	Kunt Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Yuvalı	Kunt Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Yuvalı	Yuvali Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Yuvalı	Yuvali Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Sinanlı	Ana Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Sinanlı	Ana Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Saray	Beyazköy	Ana Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Beyazköy	Kiraz Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Beyazköy	Ana Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Göçerler	Sazli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Göçerler	Sazli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ahimehmet	Sogukpinar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ahimehmet	Sogukpinar Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Tekirdağ	Ergene	Ahimehmet	Sogukpinar Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Ergene	Ahimehmet	Ana Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Misinli	Ana Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Misinli	Ana Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Ergene	Misinli	Ana Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Misinli	Kuru Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Misinli	Kuru Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Güngörmez	Arpatarla Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Güngörmez	Darıtarla Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Güngörmez	Arpatarla Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Güngörmez	Darıtarla Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Saray-Center	Saray Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Saray-Center	Saray Stream

Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Çukuryurt	Çukuryurt Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Çukuryurt	Çukuryurt Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Çukuryurt	Ergene Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Çukuryurt	Ergene Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Küçükyoncalı	Keçikisla Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Küçükyoncalı	Keçikisla Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Küçükyoncalı	Kocca Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Küçükyoncalı	Kocca Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Küçükyoncalı	Manika Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Küçükyoncalı	Manika Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Büyükyoncalı	Kör Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Büyükyoncalı	Manika Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Büyükyoncalı	Acorn Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Büyükyoncalı	Kör Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Büyükyoncalı	Manika Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Büyükyoncalı	Manika Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Saray	Büyükyoncalı	Acorn Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Saray	Çayla	Galata Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Kapaklı	Bahçeağıl	Bahçeagil1 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Kapaklı	Uzunhacı	Ergene River
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Karamehmet	Ergene River
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Ergene	Karamehmet	Ergene River
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hasköy	Umurca Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hasköy	Malpete Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hasköy	Malpete Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Umurçu	Hoca Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Umurçu	Kolagil Stream

Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Umurçu	Hoca Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Umurçu	Kolagil Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Turnacı	Ayvalık Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Danişment	Aşağı Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Uzunköprü	Danişment	Aşağı Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Çerkezmüsellim	Koca Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Çerkezmüsellim	Koca Creek
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hayrabolu-Center	Hayrabolu6 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hayrabolu-Center	Hayrabolu6 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hayrabolu-Center	Hayrabolu5 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hayrabolu-Center	Hayrabolu5 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Çıkrıkçı	Poplar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Çıkrıkçı	Poplar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hayrabolu-Center	Kırmızıbayır Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Hayrabolu-Center	Kırmızıbayır Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Tekirdağ	Hayrabolu	Hayrabolu-Center	Hayrabolu1 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Alacaoğlu	Hamam Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Alacaoğlu	Ağaçlıkboyu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Alacaoğlu	Hamam Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Düğüncübaşı	Albania Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Düğüncübaşı	Albania Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Çiftlikköy	Batak Stream
Early Warning	In order to reduce flood risks for the settlement, the local population should be warned by an early warning system.	Kirklareli	Lüleburgaz	Çiftlikköy	Batak Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Lüleburgaz	Karamusul	Ergene River
Early Warning	In order to reduce flood risks for the settlement, the local population should be warned by an early warning system.	Kirklareli	Lüleburgaz	Kayabeyli	Ergene River
Early Warning	In order to reduce flood risks for the settlement, the local population should be warned by an early warning system.	Kirklareli	Lüleburgaz	Ovacık	Ergene River
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Banarlı	Ayvalisatak Stream

Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Banarlı	Ayvalisatak Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Banarlı	Kurtpinar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Banarlı	Kurtpinar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Karacakılavuz	Karacakılavuz Stream
Early Warning	In order to reduce flood risks for the settlement, the local population should be warned by an early warning system.	Tekirdağ	Süleymanpaşa	Karacakılavuz	Karacakılavuz Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Yörükler	Fountain Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Yörükler	Fountain Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Karayahşi	Taşköprü Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Karayahşi	Taşköprü Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Büyükkarakarlı	Village Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Büyükkarakarlı	Village Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Oğuzlu	Kumbayir Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Oğuzlu	Kumbayir Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	İnecik	Bent Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	İnecik	Bent Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Selçuk	Poplar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Süleymanpaşa	Selçuk	Poplar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Evrenbey	Hayrabolu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Malkara	Evrenbey	Hayrabolu Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Malkara	Evrenbey	Küçük Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Evrenbey	Küçük Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Malkara	Evrenbey	Çoban Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Evrenbey	Çoban Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Dereköy	Sarp Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Yenice	Kılkaynak Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Malkara	Yenice	Kılkaynak Stream

Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	İbribey	Cobanpinar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Karamurat	Degirmen Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Karamurat	Karamurat Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Karamurat	Degirmen Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Karamurat	Karamurat Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kırıkali	Suat Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kırıkali	Suat Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Küçükhıdır	Koru Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Küçükhıdır	Koru Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Hacısungur	Hacisungur Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Hacısungur	Hacisungur Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Soylu	Soylu1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Soylu	Soylu1 Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Tekirdağ	Hayrabolu	Kurtdere	Mezarlık Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Doğanca	Doganca Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Pehlivanköy	Doğanca	Doganca Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Edirne	Uzunköprü	Başağıl	Beykoy Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Başağıl	Beykoy Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Malkara-Center	Besyatak Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Malkara-Center	Malkara1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Malkara-Center	Besyatak Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Malkara-Center	Malkara1 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Gönence	Besyatak Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Gönence	Besyatak Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Sarnıç	Sarnic Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Sarnıç	Sarnic Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kiremitlik	Kiremitlik Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kiremitlik	Kiremitlik Stream

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kiremitlik	Suvat Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Yörücek	Pirelik Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Yörücek	Pirelik Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kozyörük	Kurucay Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kozyörük	Kurucay Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Malkara	Çınaraltı	Eskipırafça Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Subaşı	Kocaçayır Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Edirne	Uzunköprü	Dereköy	Karakaçan Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Kurtbey	Soğuk Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Kurtbey	Soğuk Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Türkobası	Karakol Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Uzunköprü	Türkobası	Karakol Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Uzunköprü	Altınyazı	Altinyazı1 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	İpsala	Sultan	Tuzlu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	İpsala	Sultan	Tuzlu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kürtüllü	Kürtüllü Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Kürtüllü	Kürtüllü Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Tekkeköy	Fındıklı Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Tekkeköy	Fındıklı Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Edirne	Keşan	Küçükdoğanca	Tyrrhenian Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Yenimuhacir	Söğütlük Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Yenimuhacir	Söğütlük Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan2 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan2 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan8 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan8 Stream

Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan8 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan3 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan3 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan7 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan7 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan7 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Leş Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Leş Creek
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan10 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan10 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan11 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan11 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan9 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Keşan9 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Kiremitli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Kiremitli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Keşan-Center	Kiremitli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Sarıpolat	Gocluk Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Sarıpolat	Gümüş Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Sarıpolat	Gocluk Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Sarıpolat	Silver Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Malkara	Yenidibek	Kirazli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Bahçeköy	Cevizlik Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Bahçeköy	Cevizlik Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Boztepe	Boztepe1 Stream

Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Boztepe	Mezar Creek
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Türkmen-1	Üçüncü Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Türkmen-1	Üçüncü Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Keşan	Gündüzler	Taştepe Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Orhaniye	Orhaniye1
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Orhaniye	Orhaniye1
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Keşan	Akhoca	Dereboğazı Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Keşan	Akhoca	Dereboğazı Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	İpsala	Koyuntepe	Kunk Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	İpsala	Koyuntepe	Kunk Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	İpsala	Kocahıdır	Hamza Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	İpsala	Kocahıdır	Hamza Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	İpsala	Aliço Pehlivan	Village Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	İpsala	Esetçe	Muratkoru Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	İpsala	Esetçe	Muratkoru Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	İpsala	Turpçular	Cin Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	İpsala	Turpçular	Cin Creek
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Meriç	Akıncılar	Pırnal Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Akıncılar	Pırnal Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Kavaklı	Fountain Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Meriç	Yakupbey	Karanlık Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Yakupbey	Karanlık Creek
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Karayayla	Mahmutagan Stream
Upper Basin	It has been deemed appropriate to make operational arrangements for flood relief in the upstream part of the settlement.	Edirne	Uzunköprü	Karayayla	Mahmutagan Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Katranca	Şeytan Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Kadriye	-

Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Kadriye	Basal Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Domurcalı	Sogukpinar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Süloğlu	Domurcalı	Sogukpinar Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Kirklareli	Center	Ulukonak	Bağlar Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Muzruplu	Muzruplu Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Tekirdağ	Hayrabolu	Muzruplu	Muzruplu Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Sığırcılı	Hamam Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Sığırcılı	Hamam Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Meriç	Rahmanca	Köktarla Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Meriç	Karayusuflu	Village Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Karayusuflu	Village Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Meriç3 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Doganca Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Meriç5 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Meriç5 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Meriç3 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Meriç3 Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Yarli Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Meriç-Center	Yarli Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Meriç	Küçükdoğanca	Tyrrhenian Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Küçükdoğanca	Tyrrhenian Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Meriç	Subaşı	Subasi1 Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Meriç	Subaşı	Subasi1 Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Enez	Enez-Center	Enez1 Stream
Upper Basin	Flood traps should be implemented on the upstream side of the settlement.	Edirne	Uzunköprü	Salarlı	Bülbül Stream
Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Salarlı	Bülbül Stream
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Çiftlikköy	Bey Stream

Bed Arrangement	Arrangements should be made on the stream to pass the 500-year flood recurrence flow.	Edirne	Uzunköprü	Çiftlikköy	Bey Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Meriç	Saatağacı	Ergene River
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Edirne	Havsa	Osmanlı	Haskoy Stream
Bed Arrangement	The 500-year flood recurrence flow rate should be provided downstream by creating a stream bed.	Edirne	Center	Büyükismailçe	-
Transition Structure Improvement	The crossing structures on the stream need to be renovated to pass the 500-year flood recurrence flow.	Kirklareli	Babaeski	Taşköprü	Akkadin Stream
Streambank Arrangement/Manufacture	In the settlement, there is a need for the arrangement/fabrication of the embankment in order to prevent the flood risk caused by the 500-year flood recurrence flow.	Kirklareli	Babaeski	Taşköprü	Akkadin Stream

REFERENCES

AFAD. (2021). Provincial Disaster Risk Reduction Plan. IRAP.

AKÇA, L., KINACI, C., KARPUZCU, M. E., CEYHAN, M., AKTAŞ, M., GÖRGÜN, E., . . ÖZTÜRK, İ. (2022). Türkiye's Most Comprehensive Environmental Restoration and Industrial Clustering Application: Ergene River Basin Environmental Protection and Inter-basin Wastewater Reclamation and Inter-basin Wastewater. ITU Journal-e, 35.

Updating the Antalya Basin Flood Management Plan - Strategic Environmental Assessment (Draft Report), webdosya.csb.gov.tr/db/scd/icerikler/antalya-havzasi-typ---scd_taslak-20250206120431.pdf

Human Resources Special Expertise Commission Report. (2022) https://www.trakyaka.org.tr/upload/Node/33039/files/280620130KE5ZF.pdf.

Branch Directorate Responsible for EIA and Environmental Permits. (2024). Tekirdağ Province 2023 Environmental Status Report, tek-rdag_-cdr2023-20240701132911.pdf

Coruh and Eastern Black Sea Basins Flood Management - Strategic Environmental Assessment, webdosya.csb.gov.tr/db/scd/icerikler/coruhhavzas-_tkbr-20191007142317.pdf

DSI, Meriç-Ergene Master Plan (2018). Meriç Ergene and Northern Marmara (Thrace Section) Basins Master Plan Report. EDIRNE: DSI.

DSI (2021). DSİ Official Water Resources Statistics for 2021

DSI. (2021). http://www.dsi.gov.tr/docs/iklim-degisikligi/17-tikdek-ergene-bildiri.pdf?sfvrsn=2

DSI. (2021). http://www.dsi.gov.tr/docs/iklim-degisikligi/17-tikdek-ergene-bildiri.pdf?sfvrsn=2.

Edirne Provincial Directorate of Environment, Urbanisation and Climate Change Branch Directorate Responsible for EIA and Environmental Permits (2023). Edirne Province 2022 Environmental Status Report, , ed-rne-2022-yili-cevre-durum-raporu-20231026163146.pdf

Edirne Provincial Directorate of National Education. (2022). https://edirne.meb.gov.tr/.

Immovable Cultural Assets of Edirne Province. (2022). https://edirne.ktb.gov.tr/Eklenti/84051,edirne-ili-tasinmaz-kultur-varliklari-sayilaripdf.pdf?0.

Edirne Museum Statistics. (2022). https://edirne.ktb.gov.tr/Eklenti/111890,muze-istatistikleri-2021-2023-ocak-subat-13032023-gunce-.xlsx?0.

Edirne Museums. (2022). https://edirne.ktb.gov.tr/TR-293876/muzelerimiz.html.

Number and Area of Edirne Protected Areas. (2022). https://edirne.ktb.gov.tr/Eklenti/84052,edirne-sit-alanlari-sayi-ve-yuzolcumleripdf.pdf?0.

Edirne Tourism Facilities. (2022). https://edirne.ktb.gov.tr/TR-144553/bakanligimizdan-belgeli-tesisler.html.

Edirne Governorship. (2021). Edirne Province 2021 Environmental Status Report.

Edirne Governorate: http://www.edirne.gov.tr/sehrimiz

Flood Risk Management Plan in the Elbe River Basin

Migration Special Expertise Commission Report. (2021). https://www.trakyaka.org.tr/upload/Domain/trakyaka/28062013d-cCNZ.pdf.

Haktanır, K. C. (2000). Soil Resources and Utilisation. Türkiye Agricultural Engineering V. Technical Congress. , (s. 203-229). Ankara.

Technical Assistance for the Transformation of Basin Protection Action Plans into River Basin Management Plans -Meriç-Ergene River Basin Management Plan, https://www.tarimorman.gov.tr/SYGM/Sayfalar/Detay.aspx?SayfaId=49

Integration of Strategic Environmental Assessment in Flood Management Planning, lessons learnt from the International Experience- Case Pakistan

Transformation in Manufacturing Industry Special Expertise. (2022). https://www.trakyaka.org.tr/upload/Domain/trakyaka/28062013pHakIR.pdf.

Kırklareli Provincial Directorate of Culture and Tourism, https://kirklareli.ktb.gov.tr/TR-64281/cografya.html

Kırklareli Provincial Directorate of Culture and Tourism. (2022). https://kirklareli.ktb.gov.tr/TR-64288/kultur-turizmi.html.

Kırklareli Provincial Directorate of National Education. (2022). https://kirklareli.meb.gov.tr/.

Kırklareli Museum 2019 Year Data. (2022). https://kirklareli.ktb.gov.tr/TR-93228/muze.html.

Kirklareli Governorship. (2021). Kirklareli Province 2021 Environmental Status Report.

Konya Drought Management Plan - Strategic Environmental Assessment, webdosya.csb.gov.tr/db/scd/icerikler/konya-havzasi-kyp-n-ha--scd-raporu-20231005094030.pdf

Marmara Basin Flood Management Plan - Strategic Environmental Assessment, Marmara Basin TYP - SCED

Industrial Water Pollution in Meriç Ergene Basin, https://www.researchgate.net/publication/323639532_MERIC-ERGENE_HAVZASINDA_SANAYI_KAYNAKLI_SU_KIRLILIGI

Meriç-Ergene and Marmara Basins Drought Management Plan - Strategic Environmental Assessment (SEA) Information Report, webdosya.csb.gov.tr/db/scd/icerikler/marmara_kyp_n-ha-_bilgilendirme_raporu-20240216084350.pdf

Multi-level hegemony in transboundary Flood Risk Management: A downstream perspective on the Maritsa Basin , https://www.researchgate.net/publication/357660612_Multi-level_hegemony_in_transboundary_Flood_Risk_Management_A_downstream_perspective_on_the_Maritsa_Basin

OUR WATERS: JOINING HANDS ACROSS BORDERS: First Assessment of Transboundary Rivers, Lakes and Groundwaters

Özşahin, E. (2016). Effects of land use and land cover changes on erosion in Ergene Basin (Thrace). Anatolian Journal of Agricultural Sciences.

Papazova, P., & Simeonova, P. (2013, March). Environmetric data interpretation to assess the water quality of Maritsa River catchment Engineering. Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental.

Study for the Strategic Environmental Assessment (SEA) of the European Territorial Cooperation Programme Greece - Bulgaria 2014-2020, https://www.greece-bulgaria.eu/wp-content/uploads/2023/06/SEA_GR-BL_INTERREG_V_3_EN.pdf

Susurluk Basin Flood Management Plan - Strategic Environmental Assessment, susurluk-havzasi-typ-n-ha--monitoring-rap.-20240807103432.pdf

Şengüler, İ. (2022). Geology and Coal Potential of Ergene (Thrace) Basin. General Directorate of Mineral Research and Exploration, Energy Raw Material Survey and Exploration Department.

T.C. Kırklareli Governorship Provincial Directorate of Environment, Urbanisation and Climate Change EIA, Permit and Inspection Branch Directorate. (2024) Kırklareli Province 2023 Environmental Status Report, k-rklarel-_-cdr2023-20241016092146.pdf

T.C. Ministry of Industry and Technology Edirne Provincial Directorate of Industry and Technology. (2021). Edirne Province Industry Status Report https://www.sanayi.gov.tr/plan-program-raporlar-ve-yayinlar/81-il-sanayi-durum-raporlari/mu2708011628

T.C. Ministry of Industry and Technology Edirne Provincial Directorate of Industry and Technology. (2021). Kırklareli Industry Status Report: https://www.sanayi.gov.tr/plan-program-raporlar-ve-yayinlar/81-il-sanayi-durum-raporlari/mu2708011650

T.C. Ministry of Industry and Technology Edirne Provincial Directorate of Industry and Technology. (2021). Tekirdağ Industry Status Report: https://www.sanayi.gov.tr/plan-program-raporlar-ve-yayinlar/81-il-sanayi-durum-raporlari/mu2603011673

T.C. Ministry of Agriculture and Forestry. (2015). GUIDE ON CONSIDERATIONS TO BE TAKEN IN EROZION AND FLOOD CONTROL IMPLEMENTATIONS. ANKARA: Republic of Türkiye Ministry of Agriculture and Forestry.

Tekirdağ 22020-2023 Nature Tourism Master Plan. (2022). https://bolge1.tarimorman.gov.tr/Documents/menu-dosyalar/Do%C4%9Fa%20Turizmi%20Master%20Planlar%C4%B1/Tekirda%C4%9F%20TTMP.pdf.

Tekirdağ Provincial Directorate of National Education. (2022). https://Tekirdağ.meb.gov.tr/.

Structural Investigation of Cattle Breeding Enterprises in Tekirdağ Malkara Region. (2022). https://dergipark.org.tr/tr/download/article-file/305935. Retrieved from https://dergipark.org.tr/tr/download/article-file/305935. Structural Investigation of Cattle Breeding Enterprises in Tekirdağ-Malkara Region.

Tekirdağ Museums. (2022). https://Tekirdağ.ktb.gov.tr/TR-75779/ozel-muzeler.html.

Tekirdağ historical buildings. (2022). https://Tekirdağ.ktb.gov.tr/TR-75780/diger-tarihi-yapilar.html.

Tekirdağ Tourism Statistics 2019 June. (2022). https://Tekirdağ.ktb.gov.tr/Eklenti/64106,Tekirdağ-haziran-turizm-istatistik-raporupdf.pdf?0.

Tekirdağ Governorship. (2022). Tekirdağ Province 2021 Environmental Status Report.

The Emerging Flood Risk on the Lower Part of Transboundary Meric/Maritsa River Basin, https://www.researchgate.net/publication/336835471_The_Emerging_Flood_Risk_on_the_Lower_Part_of_Transboundary_MericMaritsa_River_Basin

Tokatlı, C. (2020, April). Evaluation of Ergene River Basin Water Quality Using Multivariate Statistical Analyses. LimnoFish - Journal of Limnology and Freshwater Fisheries Research, pp. 39-41.

TRAGEP. (2013). Thrace Development Project. Development Key TRAGEP.

Thrace Economic Indicators Bulletin. (2023). https://www.trakyaka.org.tr/upload/Node/46687/xfiles/01-Ocak_Ayi_Ekonomi_Bulteni_2023.pdf.

Turoğlu, H., & Uludağ, M. (2015, February 12). Possibly Hydrographic Effects Of Climate Change On Lower Part. Trakya University Journal of Natural Sciences.

TurkStat Statistical Data Portal.(2024). Population and Demography https://data.tuik.gov.tr/Kategori/GetKategori?p=Nufus-ve-Demografi-109

Lake Van Basin Flood Management Plan - Strategic Environmental Assessment, webdosya.csb.gov.tr/db/scd/icerikler/vangolu_-zlemeraporu-20211216114754.pdf

Water and Sediment Quality Assessment of the Lifeblood of Thrace Region (Türkiye): Meriç River Basin.