

PURE Rivers: Pollution Understanding and Restoration Effort for Rivers

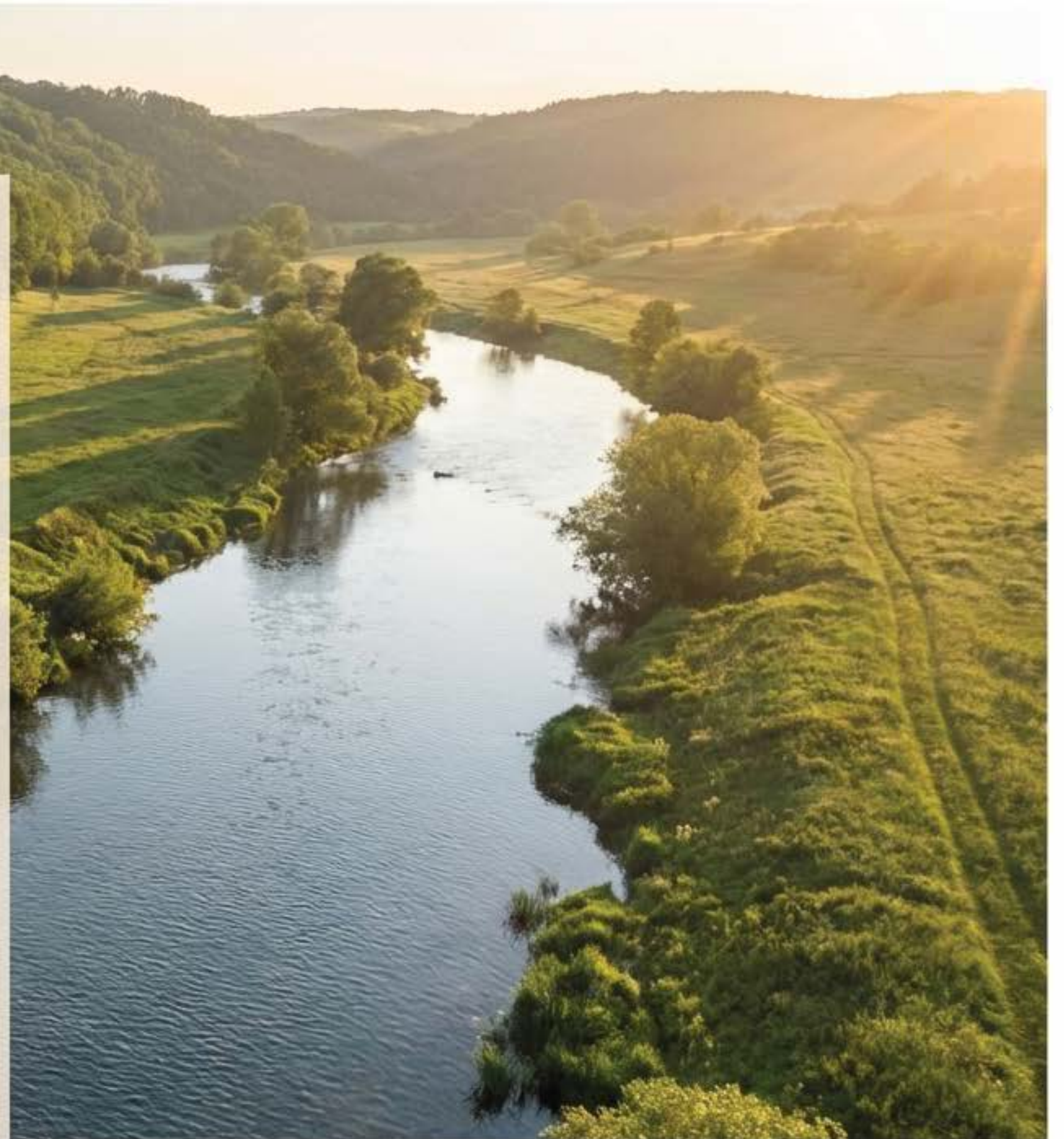
A Transnational Initiative for the Health of the Black Sea Basin

Interreg



Co-funded by
the European Union

NEXT Black Sea Basin



Our Rivers Face a Common, Transboundary Threat

The Black Sea Basin's rivers are lifelines, yet they are under severe pressure. Waste from cities, farms, and factories relentlessly flows from over twenty countries into the Black Sea. This pollution threatens biodiversity, ecosystems, and human health, creating an environmental crisis that transcends national borders.

Key Pollutants



Agricultural Runoff:
Fertilizers &
Pesticides



Municipal & Industrial Waste: Solid waste, chemicals, untreated wastewater



Emerging Threats:
Microplastics &
Heavy Metals



Focusing Our Efforts on Three Critical Waterways



Our Response is a Coordinated Effort in Pollution Understanding and Restoration

The PURE Rivers project is a collaborative effort to assess and mitigate pollution in the Evros, Sakarya, and Supsa rivers. Our overall objective is to restore the health of these vital waterways through scientific investigation, stakeholder engagement, and targeted restoration strategies.

Duration

30

Months

Total Budget

€1,522,117.80

EU Co-financing

€1,369,906.02

(90%)

Programme Priority

**Clean and
Green Region**

(RSO2.7)

A Strategic Alliance Bringing Together Diverse Expertise



Istanbul University Cerrahpasa (IUC) | Türkiye
(Lead Partner)

Role: Scientific Leadership & Project Coordination. Provides extensive expertise in environmental sciences to develop the core research methodology.



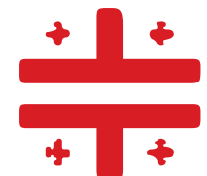
Democritus University of Thrace (DUTH-SARF) | Greece

Role: Research & Regional Expertise. Adds scientific capabilities focused on the specific pollution context of the Evros River and its wetlands.



Sakarya Governorship | Türkiye

Role: Municipal Action & Local Implementation. Brings practical knowledge of waste management and pollution challenges specific to the Sakarya River, action plan organisations. As well as contributing to the effective implementation of pollution control measures and restoration activities.



Lanchkhuti Municipality | Georgia

Role: Research & Regional Expertise. Adds scientific capabilities focused on the specific pollution context of the Supsa River and its wetlands.

Our Approach is Built on Three Strategic Pillars

To tackle this complex challenge, we have structured our work plan into a holistic, three-part framework. This ensures that our actions are data-driven, our interventions are tangible, and our impact is sustainable.

1



UNDERSTAND

Building a foundation of scientific rigor through comprehensive research, monitoring, and assessment.

2



ACT

Implementing targeted, on-the-ground interventions to clean and restore the rivers.

3



EMPOWER

Creating lasting change by building the capacity of local stakeholders and communities.

Pillar 1: **UNDERSTAND** | Building a Foundation of Scientific Rigor

We begin by establishing a comprehensive, standardized methodology to ensure consistent and reliable data across all three rivers.



Develop Standardized Methodology: Create a guidebook for field and laboratory research compliant with ISO standards, defining key parameters (pH, nutrients, heavy metals, etc.) and protocols.



Determine Strategic Sampling Points: Select at least five points on each river, considering seasonal flow, proximity to pollution sources, and river characteristics. Water and sediment samples will be collected four times a year.



Conduct Comprehensive Lab Analysis: Analyze samples for pathogens (E. coli, Salmonella, etc.), microplastics (ISO/CD 16094), and heavy metals (ICP-MS method) using accredited laboratories.



Produce Scientific Output Reports: Publish and disseminate findings to provide a clear baseline of the rivers' pollution status.

Pillar 2: **ACT I** Translating Insight into On-the-Ground Intervention

Based on our findings, we will develop and implement participatory action plans to directly address pollution sources and restore the rivers' ecological health.



Co-develop Restoration Action Plans: Engage over 50 local stakeholders per region (authorities, NGOs, citizens) in conferences and workshops to create tailored cleaning and restoration strategies.



Launch Clean-up Campaigns: Mobilize divers and boats for in-river litter collection. Engage over 100 children and community members in each region for riverbank clean-ups and upcycling workshops.



Pilot Innovative Biological Purification: Implement a mobile bioremediation pilot in the **Sakarya River**, using microorganisms and plants to naturally break down pollutants in a controlled section.



Monitor and Evaluate Results: Continuously track progress against performance indicators (e.g., pollution reduction, ecological recovery) to ensure the effectiveness of our actions.

Pillar 3: **EMPOWER** | Building a Sustainable Human Infrastructure

Lasting change requires empowering those on the front lines. We are committed to building the skills and knowledge of local partners and communities to ensure river conservation continues long after the project ends.



Intensive Training for Research Teams

Conduct 4-day, 24-hour physical training sessions for partner research teams on the new monitoring methodology.



Capacity Building for Public Authorities

Deliver workshops for local public authorities on pollution prevention, policy frameworks, and leading restoration efforts in their jurisdictions.



Targeted Training for Local Actors

Provide specialized training for key community groups:

- **50 Students** per country (12-hour sessions)
- **20 Farmers, 10 Industrialists, 10 NGOs, & 50 Citizens** per country (6-hour sessions)

The Expected Results: Cleaner Water, Healthier Ecosystems, and Empowered Communities

Through the successful implementation of our outputs, PURE Rivers will deliver measurable improvements to the environment and build lasting capacity for river management in the Black Sea region.



Project Result: Improved Water Quality & Ecological Health

Measurable reductions in pollution levels (pathogens, heavy metals, microplastics) will lead to healthier aquatic ecosystems and enhanced biodiversity.

Programme Indicator Target

1 solution (the comprehensive cleaning/restoration action plan) will be taken up or up-scaled by organisations.



Project Result: Enhanced Stakeholder Cooperation & Capacity

A stronger, more knowledgeable network of local actors will be equipped to continue river conservation efforts.

Programme Indicator Target

4 organisations will continue cooperating across borders after the project's completion.

A Ripple Effect of Benefits Across Society



Local & Regional Authorities

Gain knowledge and tools to make informed decisions, develop effective policies, and allocate resources efficiently for river management.



National Authorities

Receive valuable data to support the development of national strategies and environmental regulations.



NGOs & Researchers

Access scientific data and collaboration opportunities to support advocacy, enhance knowledge, and drive further research.



General Public

Enjoy cleaner, healthier rivers for recreation, improved quality of life, and preserved ecosystem services like clean water supply.



Enterprises & Farmers

Benefit from improved water quality for operations and learn sustainable practices to reduce pollution and enhance their environmental reputation.



Creating a Lasting Legacy: A Transferable Model for River Restoration

The PURE Rivers project is designed to create a lasting impact that extends beyond its official duration. We are building a framework for sustained action and knowledge sharing across the Black Sea Basin.



International Conference

A final 2-day conference in Sakarya will share project results and best practices with a wider regional audience.



'Pure and Clean Rivers' Network

The conference will launch a new regional platform, formalized by a Memorandum of Agreement, to foster ongoing cooperation, consulting, and training on river restoration.



Replicable Methodologies

Our standardized assessment methodology, participatory action plans, and training modules will be shared widely, serving as a model for other regions facing similar challenges.

The project contract will be signed and delivered to us **within a maximum of 15 days**. For this reason, we must prepare the initial **technical specifications** and establish the project and research teams.

Project team: Coordinator, financial manager, communication manager

Research team: 1 microbiologist, 1 environment Eng, 1 statistics expert , 1 assistant) formulate the research methodology, sampling analyse and evaluate results, training modules, capacity building , monitoring, reports

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