



**Research, Assessment, and
Development of Documents
on Biodiversity, the Impact
of Climate Change on
Biodiversity, Habitat
Restoration, and Long-Term
Habitat Management**



Assessment of Vulnerable Biodiversity Areas

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EXECUTIVE SUMMARY

This project “Research, assessment, and development of documents on biodiversity, the impact of climate change on biodiversity, habitat restoration, and long-term habitat management” offers an interdisciplinary approach by integrating spatial planning, legal frameworks, and ecological expertise alongside qualitative, scientific analysis. By combining knowledge from various fields, the aim is to create a comprehensive understanding of biodiversity challenges. The project emphasizes the importance of collaboration among environmental science, policy, and spatial design, creating a foundation for adaptive management strategies informed by both ecological data and spatial dynamics. This ensures that future actions are grounded in a well-informed, comprehensive perspective.

The project aims to identify and map key biodiversity areas at risk, focusing on Prizren, Suharekë, and the Sharr Mountains. Through field assessments, GIS data, spatial maps, spatial ecology analyses, and existing management plan reviews, critical habitats will be identified. These will be compared with historical and current climate patterns to predict future ecological changes and assess the impact of climate variability on biodiversity. Additionally, the project will evaluate the need for habitat restoration, documenting both the ecological and social benefits of restoration efforts.

This report, *Assessment of Vulnerable Biodiversity Areas*, examines international and European biodiversity frameworks and their relationship to Kosovo’s national policy landscape, with the aim of translating high-level commitments into spatially explicit and actionable priorities for conservation and climate resilience. It emphasizes the need to bridge the gap between policy frameworks and ecological realities by integrating governance instruments with a habitat-centred mapping approach. In doing so, the report highlights how legal commitments, scientific indicators, and spatial analysis can converge to identify vulnerable ecosystems, guide restoration, and support long-term biodiversity management.

BACKGROUND

Kosovo's ecosystems lie at the intersection of multiple pressures—rising temperatures, altered hydrology, land conversion, and fragmented governance—yet they also hold exceptional conservation value, ranging from alpine landscapes to rich riverine habitats. While existing strategies and laws acknowledge this importance, biodiversity monitoring remains incomplete and restoration efforts under-resourced. As climate variability intensifies, sensitive zones face compounding risks, even as community livelihoods and cultural landscapes continue to depend on the services these ecosystems provide.

In this context, a shift is needed from a species-based checklist toward a habitat-centred, spatial, and situated assessment that aligns international ambitions with practical local action. Accordingly, this report:

1. Situates Kosovo's efforts within the CBD/GBF and EU 2030 agendas;
2. Inventories national instruments (laws, administrative instructions, spatial and protected-area plans); and
3. Lays the groundwork for restoration planning, ecological connectivity, and no-regret implementation.

INTRODUCTION

Biodiversity worldwide is in rapid decline, with species loss, ecosystem degradation, and fragmentation accelerating under the combined pressures of climate change, land-use conversion, and unsustainable practices. Because ecological systems and species ranges do not respect administrative borders, the challenge of biodiversity conservation has long been addressed through international agreements and regional strategies. Global frameworks such as the Convention on Biological Diversity (CBD) and its Kunming-Montreal Global Biodiversity Framework (GBF), alongside the European Union's Biodiversity Strategy 2030, have placed biodiversity protection and restoration at the center of environmental and climate agendas. These frameworks emphasize integration of ecological priorities into spatial planning, agriculture, forestry, and other sectors that directly shape landscapes.

Kosovo, while not a signatory to all global treaties, aligns itself with many of these agendas as part of its European integration path and through national strategies on nature protection, climate change, and sustainable development. A comprehensive legal and policy framework exists, ranging from the Law on Nature Protection to sectoral instruments such as forestry and spatial planning legislation. Yet gaps remain in implementation, monitoring, and cross-sectoral coordination. The translation of high-level commitments into spatially explicit, locally relevant action is still uneven, with sensitive habitats facing mounting pressures despite formal recognition of their value.

This report responds to that challenge by assessing the vulnerable biodiversity areas of Kosovo through a multi-scalar lens. It reviews international and European frameworks, situates Kosovo's national policies within these broader agendas, and highlights where alignment is strong and where divergences persist. By connecting governance instruments with a habitat-centered mapping approach, the report aims to prepare the ground for restoration, ecological connectivity, and climate-resilient planning. In doing so, it not only contributes to ongoing efforts to safeguard biodiversity but also underscores the importance of embedding ecological priorities into the future development pathways of Kosovo.

THE CONCEPT OF BIODIVERSITY: HISTORICAL PERSPECTIVES AND INTERNATIONAL INSTRUMENTS

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BIODIVERSITY, THE VARIETY OF LIFE ACROSS GENES, SPECIES, AND ECOSYSTEMS, BECAME A GLOBAL PRIORITY IN THE LATE 20TH CENTURY THROUGH EFFORTS LIKE THE 1992 CONVENTION ON BIOLOGICAL DIVERSITY. ONCE ROOTED IN EARLY CONSERVATION, IT IS NOW CENTRAL TO SUSTAINABLE DEVELOPMENT, WITH URGENT ACTION NEEDED TO ADDRESS HUMAN-DRIVEN LOSSES AND PROTECT ECOSYSTEMS WORLDWIDE, INCLUDING LOCALLY IN PLACES LIKE KOSOVO.

EUROPEAN BIODIVERSITY OBJECTIVES

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EUROPEAN BIODIVERSITY POLICY, SHAPED BY GLOBAL AGREEMENTS AND REGIONAL DIRECTIVES, HAS CREATED MAJOR FRAMEWORKS LIKE THE HABITATS AND BIRDS DIRECTIVES AND THE NATURA 2000 NETWORK, PROTECTING VAST LAND AND MARINE AREAS. WHILE PROGRESS HAS BEEN MADE THROUGH RESTORATION AND COOPERATION, BIODIVERSITY LOSS CONTINUES, WITH CHALLENGES IN IMPLEMENTATION AND BALANCING CONSERVATION WITH DEVELOPMENT, ESPECIALLY IN REGIONS LIKE THE BALKANS AND KOSOVO.

BIODIVERSITY GOVERNANCE IN KOSOVO: LEGAL INSTRUMENTS AND STRATEGIC DIRECTIONS

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KOSOVO'S BIODIVERSITY GOVERNANCE HAS DEVELOPED GRADUALLY SINCE THE EARLY 2000S, SHAPED BY GLOBAL CONVENTIONS LIKE THE CBD AND EU DIRECTIVES. KEY STEPS INCLUDE THE NATURE PROTECTION LAW (2010), THE CREATION OF NATIONAL PARKS, AND THE BIODIVERSITY STRATEGY AND ACTION PLANS (2011–2020, 2016–2020). WHILE THESE FRAMEWORKS MARK PROGRESS TOWARD CONSERVATION AND EU ALIGNMENT, CHALLENGES SUCH AS WEAK ENFORCEMENT, HABITAT LOSS, AND SPECIES DECLINE—ESPECIALLY OF THE BALKAN LYNX—CONTINUE TO HINDER EFFECTIVE PROTECTION.

BACKGROUND AND THE NEED FOR A NEW APPROACH TO BIODIVERSITY MAPPING

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KOSOVO'S RED BOOK IDENTIFIES THREATENED SPECIES BUT LACKS HABITAT MAPPING AND BROADER ECOSYSTEM ANALYSIS. A NEW APPROACH INTEGRATES SPATIAL DATA, CLIMATE RISKS, AND LOCAL KNOWLEDGE TO ADDRESS UNDERLYING PRESSURES. THIS SHIFT ENABLES PROACTIVE AND EFFECTIVE BIODIVERSITY CONSERVATION.

METHODOLOGICAL APPROACH: FROM AQUATIC INSECTS TO SENSITIVE ZONES

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THIS PROJECT USES AQUATIC INSECTS—HIGHLY SENSITIVE SPECIES THAT BRIDGE AQUATIC AND TERRESTRIAL ECOSYSTEMS—AS INDICATORS TO MAP BIODIVERSITY VULNERABILITY. BY ANALYZING THEIR HABITAT NEEDS ACROSS RIVERBEDS, RIPARIAN ZONES, AND FOREST BUFFERS, THE STUDY IDENTIFIES EARLY WARNING SIGNALS OF ECOLOGICAL STRESS. THIS HABITAT-CENTERED, SPATIAL APPROACH ENABLES PROACTIVE CONSERVATION BY HIGHLIGHTING SENSITIVE ZONES BEFORE IRREVERSIBLE BIODIVERSITY LOSS OCCURS.

About EC

EC Ma Ndryshe is a community-based organization, established in 2006, committed to sustainable development through an inclusive approach.

EC's activism envisions a Kosovo where democratic governance is participatory, transparent, and accountable, ensuring that institutions, communities, and stakeholders work together towards sustainable development.

This vision promotes inclusive decision-making, stronger policies, and greater public participation, ensuring that sustainability is an integral part of governance at both local and national levels.

Through better institutional coordination, evidence-based policymaking, and citizen engagement, EC's work aims to bridge the gap between communities and institutions, ensuring that good governance leads to tangible and lasting change.

Vision statement

"Empowering a resilient and inclusive Kosovo, where communities actively shape sustainable, digitalized, and conscientious institutions."

Mission statement

"EC Ma Ndryshe supports democratic governance and sustainable development in Kosovo by fostering sustainable socioeconomic, cultural, and green growth through digital education, environmental stewardship, community mobilization, advocacy for participatory public decision-making, and the cultivation of strategic partnerships."

