

Summary

Nature-based Solutions for Urban and Regional Water Resilience: What to do with too much (dirty) water Urban and Regional Water

Key messages

- Water resilience is essential for sustainable urban and regional transformation, as reinforced by the EU's [2025 Water Resilience Strategy](#).
- Integrate water-related NbS into urban/regional plans—cost-effective, multifunctional, and key to resilience. Coherent policies are needed to avoid conflicting interests.
- Break down silos in water management. Assign clear NbS responsibilities and promote shared governance, standard procedures, and flexible regulations.
- Boost investment in NbS. Despite strong evidence, funding remains limited. Efforts must focus on making NbS attractive to investors and businesses.
- Ensure local stewardship through participatory processes that empower communities in NbS planning and upkeep.

Introduction

Co-created at a February 2025 science-policy event, this brief responds to rising droughts, floods, and pollution across European cities. Nature-based Solutions (NbS) offer adaptive, cost-effective tools for urban water resilience. The brief presents actionable recommendations for integrating NbS into local water planning, grounded in EU policy, project insights, and expert input.

Why should cities act now?

- Over 50% of EU surface and groundwater bodies fail to meet quality standards.
- The 2025 EU Water Resilience Strategy emphasises NbS for climate adaptation and biodiversity.
- The revised Urban Wastewater treatment Directive states that Member States integrated wastewater management plans “favour nature-based solutions over those that would require the establishment of grey infrastructure” (UWWTD [12] p.3)
- Cities are on the frontlines: urban floods and water shortages have direct impacts on public health, infrastructure, and economies.

The Policy Landscape

- The [Water Framework Directive](#), recast of the [Urban Wastewater Treatment Directive](#), and [Drinking Water Directive](#) provide key regulatory pathways.
- The [Floods Directive](#) and Nature Restoration Regulation support river rewilding and flood mitigation, and the enhancement of ecosystem resistance.
- The [EU Climate Adaptation Strategy](#) highlights NbS as core to climate resilience.
- The [European Commission's Water Resilience Strategy \(2025\)](#) sets out milestones to 2040 to manage scarcity, strengthen circular water use, and enhance sector innovation.
- These frameworks align with broader goals from the [European Green Deal](#), [Zero Pollution Action Plan](#), and [Biodiversity 2030](#).

Key Challenges to Implementation

- **Policy and Regulatory Gaps:** NbS are not yet mandatory in water strategies; fragmented regulations hinder coherent integration.
- **Siloed Governance:** Urban water is managed across departments with limited coordination.
- **Funding and Investment Barriers:** NbS often lack long-term financial models and are less familiar to investors.
- **Capacity and Data Deficits:** Cities need expertise, standard indicators, and better monitoring to evaluate NbS effectiveness.
- **Stakeholder Engagement:** Community involvement is often missing, yet essential for maintenance and acceptance.

Recommendations for City-Level Action

- **Integrate NbS into Urban Water Plans:** Make NbS core infrastructure, aligned with EU directives (e.g., Water Framework, Urban Wastewater, Water Reuse).
- **Foster Cross-Department Coordination:** Appoint/train NbS champions; create shared mandates across water, planning, health, and environment sectors.
- **Secure Long-Term Funding:** Use blended finance, biodiversity credits, and bonds. Enforce the Polluter Pays Principle to support NbS.
- **Build Local Capacity:** Train staff on NbS design, planning, and monitoring.
 - Embed roles in planning and water departments.
- **Standardise Data & Indicators:** Track hydrology, biodiversity, climate, and health outcomes. Map risks and NbS potential; ensure open data access.
- **Promote Community Involvement:** Engage communities in design and upkeep. Formalise grassroots NbS (e.g., gardens) into policy.
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Inspiring Practices

Nouvelle-Aquitaine: Artificial aquifer recharge sustains summer river flows.

Madrid: Building-scale wetlands reuse greywater, reducing pollution.

Barcelona: Green corridors and urban gardens enhance connectivity and green infrastructure.

Leipzig: Green roofs manage stormwater, boost biodiversity, and cool cities.

Find out More
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Read the full brief



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