



INTEGRATE NATURE-BASED SOLUTIONS TO ENHANCE NATURAL STORAGE AND WATER QUALITY

Policy Brief

Name of Indicator: Community water storage volume (cubic metres)

Field of Application: Planning & Finance

This policy brief is part of the ClimEmpower policy recommendations, available from climempower.eu. It translates evidence and project findings into practical guidance for regional and local policymakers seeking to strengthen resilience to climate and other systemic disruptions. It focuses on water storage capacity and the role of wetlands, floodplains and green infrastructure in retaining water, recharging aquifers and improving water quality.

The main recommendation is to integrate nature-based solutions into water storage strategies, treating wetland restoration, floodplain reconnection and green infrastructure as recognised storage assets alongside conventional infrastructure. This increases groundwater recharge and natural retention capacity while improving water quality and delivering wider ecosystem benefits.

Nature-Based Water Storage



Key Challenges

- Conventional storage infrastructure alone cannot keep pace with rising drought frequency and demand
- Wetland loss, floodplain disconnection and soil degradation have reduced natural retention capacity
- Nature-based storage is often overlooked in water planning compared to built infrastructure



Good Practices

- Wetland restoration and floodplain reconnection
- Green infrastructure and landscape-level water retention
- Monitoring of groundwater recharge and ecosystem service outcomes



Priority policy actions

- 🌿 **Identify catchments for landscape-level water retention**
Map catchments with potential for enhanced natural retention and infiltration, prioritising areas where wetland and floodplain restoration can deliver the greatest storage gains.
- 🌿 **Integrate nature-based storage into spatial and water planning**
Embed wetlands, floodplain reconnection and green infrastructure into spatial and water management plans as recognised storage assets alongside built infrastructure.
- 🌿 **Align interventions with EU water and nature objectives**
Coordinate investments with the Water Framework Directive and Nature Restoration objectives to ensure regulatory coherence and access to dedicated funding.
- 🌿 **Promote multi-benefit investments**
Design projects that link water storage with biodiversity conservation and recreational access, strengthening the case for cross-sectoral funding.
- 🌿 **Monitor groundwater recharge and ecosystem services**
Track recharge rates and the ecosystem services generated by nature-based interventions to demonstrate performance and inform adaptive management.

Implementation Roadmap

1

Phase 1 — Assessment and catchment mapping

Identify catchments with potential for landscape-level water retention, mapping opportunities for wetland restoration, floodplain reconnection and green infrastructure.

2

Phase 2 — Planning integration

Integrate nature-based storage measures into spatial and water management plans as a formal component of storage strategy alongside conventional infrastructure.

3

Phase 3 — Funding alignment and investment

Align funding with Water Framework Directive and Nature Restoration objectives, and promote multi-benefit investments linking storage with biodiversity and recreation.

4

Phase 4 — Monitoring and adaptive management

Monitor groundwater recharge and the ecosystem services generated by nature-based solutions, using the data to refine implementation over time.

Funding

Water Framework Directive & Nature Restoration Law

Provide the regulatory and funding basis for water retention and restoration measures.

LIFE Programme (Nature & Biodiversity)

Can support wetland and floodplain restoration demonstration projects.

European Regional Development Fund (ERDF)

Can finance green infrastructure and landscape-level water retention works.

Horizon Europe

Can fund research on nature-based solutions and ecosystem-based water management.

National and regional adaptation funds

Can further support natural water storage and ecosystem restoration locally.



Conclusion

Nature-based storage solutions improve water availability and quality while creating recreational and wellbeing benefits for communities and reducing flood and drought risks.

They also restore natural water cycles, support biodiversity and enhance long-term ecosystem resilience, complementing conventional infrastructure with durable, multi-benefit storage capacity.