

WHAT ARE NWRM ?

Natural Water Retention Measures or NWRM have the primary function of enhancing and/or restoring the retention capacity of aquifer, soil and aquatic ecosystems. These enhanced functions allow the delivery of multiple services and benefits to society, while contributing to the achievement of the objectives of a range of environmental strategies and policies.





Visit
www.nwrm.eu



Scan it!



Four examples of NWRM and their multiple benefits

NWRM	Expected direct impacts	Potential primary benefits
 <p>Reconnection of disconnected meanders</p>	Re-connection of meanders to the main channel will improve lateral connectivity, diversifying flows and habitats, and cleaning the secondary arms that can retain water during peak flow periods.	Enhanced conveyance potential and river continuity, peak runoff attenuation, maintenance of baseflow, ground-water recharge.
 <p>Conservation tillage</p>	By leaving crop residue on the soil surface, conservation tillage slows water movement and reduces soil erosion.	Water quality improvement, runoff reduction, soil conservation, enhanced infiltration potential.
 <p>Installation of green roofs</p>	Vegetation on top of a building or other structure intercepts and retains rainfall. Green roofs hence reduce peak flows and pollutant loads and help moderate extreme temperatures in cities.	Sustainable drainage and runoff control, amenity space, water quality improvement.
 <p>Continuous cover forestry</p>	Reducing clear-cuts avoids exposure of the soil surface. An uninterrupted tree canopy allows higher interception and limits sediment production, with beneficial hydrological effects.	Runoff reduction, soil conservation, climate change adaptation and mitigation, biodiversity preservation.

Selecting, designing and implementing

Natural Water Retention Measures in Europe

Capturing the multiple benefits of nature-based solutions

VISIT THE EUROPEAN PLATFORM FOR ADDITIONAL INFORMATION ON NWRM

In particular you will find information on the potential **benefits and impacts** of a wide range of NWRM, and on **practical applications** of NWRM in different European contexts. Look for inspiration in the **guide** that supports the **selection, design and implementation of Natural Water Retention Measures** in Europe, to ensure that the multiple benefits of NWRM are captured.

This leaflet has been developed as part of the NWRM Pilot Project financed by the Directorate-General for Environment, European Commission (contract 07.0330/2013/659147/SER/ENV.C1), coordinated by the Office International de l'Eau (France), with ACTeon (France), AMEC Foster Wheeler (United Kingdom), BEF (Baltic States), ENVECO (Sweden), IACO (Cyprus), IMDEA Water (Spain), REC (Hungary/Central & Eastern Europe), REKK inc. (Hungary), SLU (Sweden) and SRUC (UK) as partners.



NWRM Natural Water Retention Measures

www.nwrm.eu



Environment

ADAPT YOUR PLANNING PROCESS FOR MAKING THE MOST OUT OF NWRM

Set the scene and identify key management challenges.

Consider and spell out all policy objectives relevant to your planning scale from the outset. Describe the main water and land development challenges (including their socio-economic dimensions) relevant to these policy objective. Think spatially: distinguish between local and large scale problems

Pre-screen measures. Select NWRM that are relevant to your context and that deliver benefits responding to your main policy challenges

Locate and combine. Identify the best locations for NWRM. Consider both their ability to solve local problems and their contribution to wider catchment challenges. Consider potential combinations of NWRM and grey infrastructure measures

Assess and compare measures. Assess the potential benefits and the contribution of proposed measures to the achievement of multiple policy objectives and perform multi-criteria, cost-benefit or cost-effectiveness assessments that account for all direct and indirect costs of NWRM and for the combined achievement of multiple effects and policy objectives

Check the feasibility of NWRM prior selecting them – then go for it!

DO YOU KNOW THAT NWRM CAN HELP YOU?

Reaping the **multiple benefits** of leaving room for nature to perform functions such as:

- ✓ Reducing flood risks
- ✓ Improving water quality
- ✓ Regulating water storage and delivery
- ✓ Sequestering carbon
- ✓ Supporting biodiversity
- ✓ Delivering amenities

Contributing to multiple policy and strategy objectives such as:

- ✓ The achievement of good status as defined by the **Water Framework Directive**
- ✓ The reduction of flood risk as promoted by the **Floods Directive**
- ✓ The objectives of the **Birds and Habitats directives** and the wider **EU 2020 Biodiversity Strategy**
- ✓ The retention of water that responds to the priorities of the EU Action on **Water Scarcity & Drought**
- ✓ The resilience of natural and man-made systems, as contributions to the **EU Climate Change Adaptation Strategy**.
- ✓ **Sustainable Urban Planning** and the enhancement of our living environment.

TO SUPPORT THE SELECTION, DESIGN AND IMPLEMENTATION OF NWRM, REMEMBER TO:

Strengthen **knowledge** of the multiple benefits that NWRM deliver under real-life conditions

Make the functioning and scale of the hydrological cycle explicit in your **planning** process. Ensure that ex-ante assessments supporting the selection of measures consider the multiple benefits delivered by NWRM

Establish bridges between the planning processes of different policies and strategies. Involve **stakeholders from other policy processes** to enhance synergies between policies

Combine **funding sources** – public and private – that correspond to the multiple benefits delivered by NWRM. Capture EU funding opportunities and look at opportunities beyond your policy area.

Widen your **monitoring** base so the multiple impacts of NWRM implemented are captured and can strengthen the selection and design of NWRM elsewhere.

Look for funding opportunities in EU financing mechanisms

There are funding opportunities for NWRM in most EU funding mechanisms like the **European Agricultural Fund for Rural Development (EAFRD)**, the **European Regional Development Fund (ERDF)**, the **European Social Fund (ESF)** and the **Cohesion Fund (CF)**. The **Rural Development Programs (RDP)** can finance agri-environment climate measures, non-productive investment measures, Natura 2000 and WFD-related payments for afforestation and other forest measures. The new **LIFE** programme 2014-2021 and the **EU Horizon 2020** research programme also provide funding opportunities for enhancing the existing NWRM knowledge base.