



Roundtable 2: NWRM

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Overview

- *Definition of NWRM*
- *Blueprint and CIS*
- *Pilot project on NWRM*
- *EU Policy Document*
- *Financing Potential*
- *Conclusions*





Definition of NWRM

*Natural Water Retention Measures are **multi-functional measures** that aim to protect and manage water resources and address water-related challenges by restoring or maintaining **ecosystems** as well as **natural features and characteristics** of water bodies using **natural means and processes**.*

*The main focus is to enhance and preserve the **water retention capacity** of aquifers, soil, and **ecosystems** with a view to improve their **status**. The application of NWRM supports green infrastructure, improves or preserves the **quantitative status** of surface water and groundwater bodies and can positively affect the **chemical and ecological status** of water bodies by restoring or enhancing **natural functioning** of ecosystems and the services they provide. The preserved or restored ecosystems can contribute both to **climate change adaptation and mitigation**.*



Why Natural Water Retention Measures?

Assessment of RBMPs identified...

- *Hydromorphological alteration and diffuse pollution are the most significant issues leading to massive failure in WB status.*
- *Measures implemented until now have been insufficient.*
- The main causes of negative impacts on water status are interlinked. They include **climate change**, **land use**, economic activities, agriculture, tourism; urban development and demographic change.

Why Natural Water Retention Measures?

NWMM as one of the responses can:

- *reduce impact of diffuse pollution,*
- *regulate the flow regime in natural pattern*
- *reduce vulnerability to Climate Change,*
- *restoring the deteriorated morphological element on the riparian area and the floodplain,*
- *improve water status (surface and groundwater) (incl. DW, BW),*
- *be a Better Environmental Option for Flood risk management supporting Natural Flood Risk Management.*



The Blueprint to Safeguard Europe's Waters

- Stresses the importance of green infrastructures for reducing the impacts of floods, droughts, and land use related pressures
- Proposes that Member States expand green infrastructures using the River Basin Management Plans. The Plans require an **integrated approach to managing water resources** across policy areas and sectors. NWRM to be supported by:
 - The Commission to develop with CIS tools for facilitating NWRM uptake in the next RBMPs and FRMPs
 - To prioritise funding of natural infrastructures and ecosystem based adaptation for the water sector in the ESIF
 - Use conditionalities, such as greening of the CAP



Follow up to the Blueprint

- *The new CIS work program took to account the Blueprint proposals: **Working Group PoM and deliverable on CIS***
- *COM Launched Pilot Project: "Integration of Natural Water Retention Measures in river basin management"
(www.nwrm.eu)*
- *Commission draws attention to the inclusion of Green Infrastructure in the Partnership Agreements negotiated with Member States and other financing instruments*
- *Encourage synergies with other EU policies to be exploited*

NWRM example: Re-meandering



Restoration action with multiple benefits:
Improvement of Ecological Status,
Biodiversity enhancement,
Slowing down of water flow (regulation)
Flood protection

Pictures From NWRM Pilot Project Documentation, Original Source:
<http://riverwatch.eu/en/the-morava-anniversary-project-2014>

NWRM example: SuDS
Infiltration,
Retention & Detention
Biodiversity Enhancement
Runoff control,
Flood risk reduction
Reduction of water treatment
needs and pollution risk

Retention Infiltration
Basin



Rain Garden



Swales



NWRM example: forests headwater areas



Pictures From NWRM Pilot Project Documentation ,

Source: <http://www.intechopen.com/books/advances-in-landscape-architecture/reclamation-of-degraded-landscapes-due-to-opencast-mining>

**Decrease runoff, decrease erosion , flood protection
Water Quality improvement (GW and SW), Biodiversity
enhancement, Landscape revitalization**



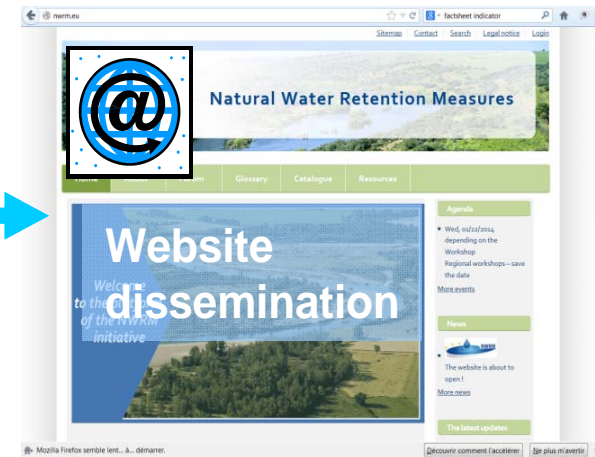
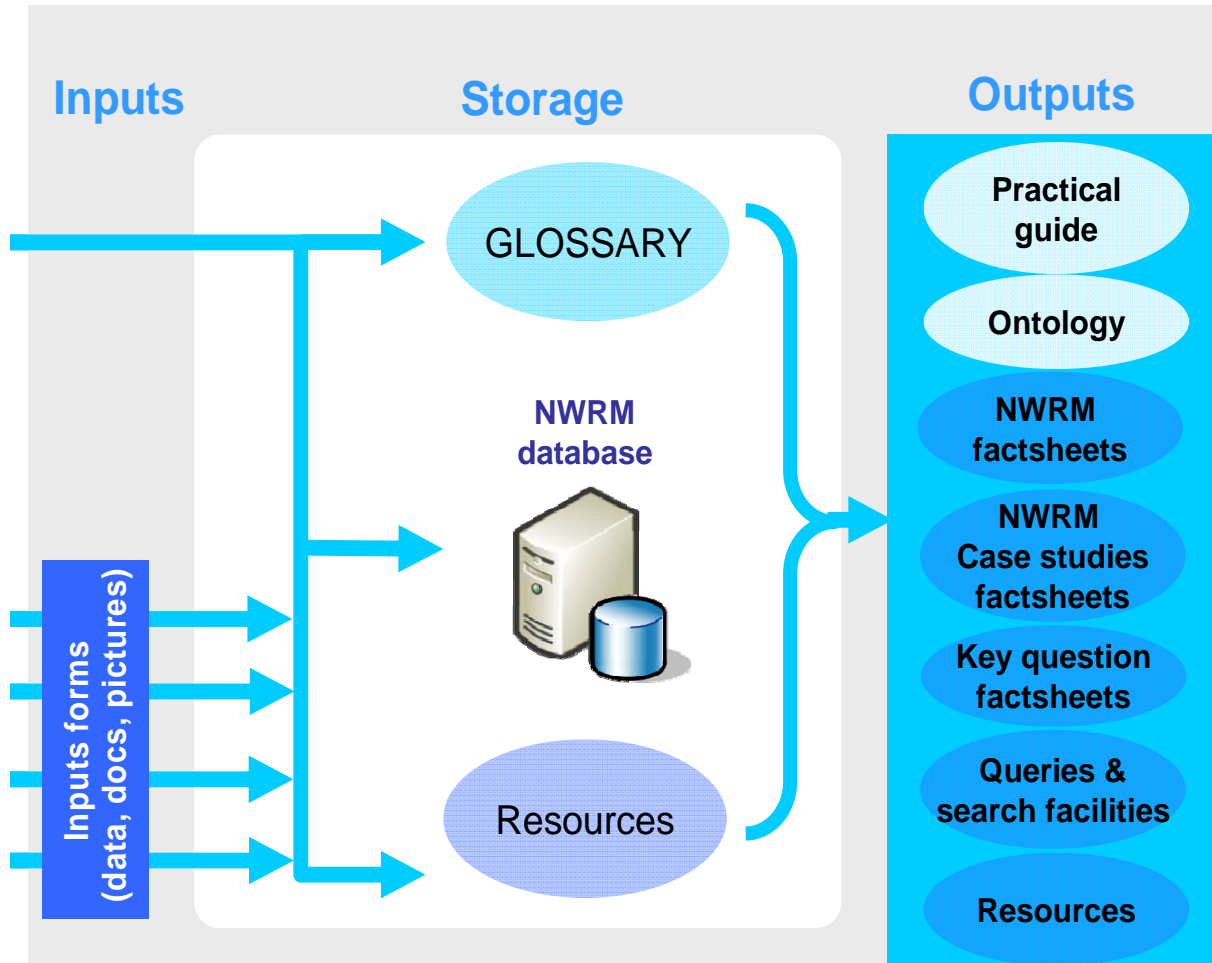
NWRM Pilot Project (www.nwrm.eu)

- *to build the knowledge base on NWRM, to provide a detailed assessment of effectiveness, costs and benefits of NWRM*
- *to further develop and maintain a catalogue of measures and case studies and associated database with geographical references*
- *to promote knowledge and best practice exchange:*
- *To contribute to WFD CIS and to identify / create operational tools that can be used at national, river basin, and/or local level to facilitate inclusion of NWRM in the RBMPs and FRMPs.*

Main Deliverables: Practical Guide, Knowledge Database, Building a community of practise (by December 2014)

11 partners: OIEau (FR), ACteon (FR), AMEC (UK), SRUC (SC), REC (HU), IACO (CY), Enveco (SW), REKK (HU), Imdea (SP), SLU (SE), BEF (LV)

Work organisation





Natural Water Retention Measures

[Home](#)[The practical guide](#)[About NWRM project](#)[Catalogue of measures](#)[Case studies](#)[Glossary](#)

From this page you can access the [guide](#) that will help you find your way to implement NWRMs, or directly access the different products: [policy documents](#), [catalogue of measures](#), [case studies](#).

**NWRM
are :**

Measures that aim to protect water resources using natural means and processes, therefore building up Green Infrastructure, for example, by restoring ecosystems and changing land use.

[MORE ABOUT
NWRM](#)[Browse NWRM concepts](#)[BROWSE](#)[POLICY QUESTIONS](#)[Access to measures](#)[Access to case studies](#)[ACCESS TO CASE
STUDIES BY LIST](#)

Catalogue of Measures



Agriculture

A1	Meadows and pastures
A2	Buffer strips and shelter belts
A3	Crop rotation
A4	Strip cropping
A5	Intercropping
A6	No tillage
A7	Reduced/conservation tillage
A8	Green cover
A9	Early sowing
A10	Traditional terracing
A11	Controlled traffic farming
A12	Reduced stocking density
A13	Mulching



Forest

F1	Riparian buffers
F2	Headwater areas
F3	Reservoir catchments
F4	Targeted planting for "catching" precipitation
F5	Land use conversion
F6	Continuous Cover forestry
F7	"Water sensitive" driving
F8	Appropriate design of roads and stream crossings
F9	Sediment capture ponds
F10	Coarse woody debris
F11	Urban forest parks
F12	Trees in Urban areas
F13	Overland Flow Areas
F14	Peak Flow control structures



Urban

U1	Green Roofs
U2	Rainwater Harvesting
U3	Permeable Paving and other permeable surfaces
U4	Swales
U5	Channels and Rills
U6	Filter Strips
U7	Soakaways
U8	Infiltration Trenches
U9	Rain Gardens
U10	Detention / Infiltration Basins
U11	Retention Ponds
U12	Managed Aquifer Recharge



Hydro morphology

N1	Basins and ponds
N2	Wetland
N3	Floodplain reconnection
N4	Re-meandering
N5	Revitalisation of flowing waters
N6	Temporary tributaries flow
N7	Hydraulic annexes
N8	Riverbed (alluvial mattress)
N9	Levelling of dams/ longitudinal barriers
N10	Natural bank stabilisation
N11	Elimination of riverbank protection
N12	Lakes
N13	Artificial groundwater recharge (AGR)
N14	Floodplain restoration (polder)



NWRM have links with other Policies

- *Env. Policy: Biodiversity Strategy (including GI strategy), Nature 2000, Habitats Directive, LIFE, Soil Strategy*
- *Climate Change Adaptation Strategy*
- *New Forest Strategy*
- *Regional Policy: Cohesion Funds, ERDF*
- *Agricultural Policy: CAP, EAFRD*
- *Research and Innovation funds*



Agreed WG PoM Deliverable

- *A short Policy Document aiming:*
 - ❖ **To explain the policy relevance of NWRM, stimulate their uptake as effective means for achieving water and other environmental policy objectives.**
 - ❖ **To be used as tool by water directors to persuade other policy makers for joined action**
- *Targeting Water Directors and decision-makers at the National Competent Authorities for WF/FD and local and regional catchment-scale decision-makers.*
- ***Ensure coherence with tools and documents of the NWRM pilot project. The project will be providing the knowledge base, experiences, technical background and practical guidance tools to complement this document.***



The policy document – what will you find in?

Executive summary

What is the aim and target group of the policy document?

What can you achieve with NWRM? (types of measures and expected benefits)

Which policy relevance of NWRM? (= > WFD, FD, other Environmental Policy, Agriculture Policy...)

Making NWRM operational: some recommendations

Conclusions

The final version sent to Water Directors for the 24-25 Nov



Financing Potential for NWRM

- *Promote NWRM in European Structural and Investment Funds (ESIF) (Partnership Agreements)*
- *Common Agriculture Policy - RDPs*
- *Research and Innovation Funds*
- *LIFE*
- *Other financial instruments e.g. EIB*



Conclusions

- *Case Studies and science based predictions support their effectiveness, but there is yet not a wide uptake. Need for a change in the thinking.*
- *Some knowledge gaps exist on: specific conditions for optimising NWRM, combining them with other measures, quantifying their impact at large scale and calculating all their benefits.*
- *Multifunctional and Multi-sectoral => need to have collaboration between different governance actors and stakeholders*
- *Measures are relevant EU-Wide but their design needs to be tailored for each bio geographical region*
- *NWRM offer multiple benefits and opportunities for achieving WFD and FDs objectives and as such should be included in the RBMPs and FRMPs.*



***Thank you for
your attention***