



Natural Water Retention Measures

Web-based knowledge
Community of practice
NWRM practical guide



Pilot Project - Atmospheric Precipitation - Protection and efficient use of Fresh Water: Integration of Natural Water Retention Measures in River basin management

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Introduction to Natural Water Retention Measures

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Working Definition

‘Natural Water Retention Measures aim to restore and maintain water-related ecosystems by natural means. They are Green Infrastructures intended to maintain and restore landscape, soils and aquifers in order to improve their natural properties, the environmental services they provide, and to favour climate change adaptation and reduce vulnerability to floods and droughts’



But what does that actually mean?

Natural Water Retention Measures should:

- Influence the water storage potential of the landscape, soils or aquifers
- Regulate the flow of water to reduce extremes

Do they actually have to be 'natural'?

- Key is restoring or providing natural processes
- The features that provide this may not necessarily be natural
- Is aquifer recharge an NWRM?
- Is a runoff storage tank an NWRM?



Classifying NWRM

We can distinguish between:

- Restoration measures. Direct interventions over:
 - Rivers and their wetlands
 - Lakes and their wetlands
 - Aquifers
- Changes or adaptation of land-use practices:
 - Agriculture
 - Forestry
 - Urban
 - Natural areas



Restoration measures





Change or adaptation of land-use practices





Classifying NWRM

- Initial list of categories and sub-categories of NWRM in concept note
- Expanded from Stella (2012)
- May be overlaps or gaps in measures- we're interested in yours thoughts
- Is it possible to have a comprehensive list?



What makes NWRM effective?

Hydrological effectiveness

- Slowing and/or reducing flow
 - ◆ Reduce flood peaks
 - ◆ Retain water for dry periods
- Individual measures may have limited effectiveness
 - ◆ Cumulative benefits
 - ◆ Spatial aspects: downstream benefits

Effectiveness and benefits for RBMP implementation

- Relate to pressures
 - Hydrological
 - Morphological
 - Water quality
 - Biodiversity



Valuing NWRM

NWRM can contribute to benefits for:

- WFD implementation
- Floods Directive
- Water scarcity and droughts
- Climate change adaptation
- Sustainable urban development
- Biodiversity

Thank you for attention

