

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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Natural Water Retention Measures or NWRM: what are they?

Heather Williams (AMEC) and Pierre Strosser (ACT*eon*)







If you close your eyes and think of the "before NWRM" time....

How would you have named measures prior to hearing the name NWRM for the first time?



Working Definition (under progress...)

'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'

Or

'Natural water retention measures are measures that aim to safeguard and enhance the storage potential of landscape, soil, and aquifers, by restoring ecosystems, natural features and characteristics of water courses and using natural processes.'

Or...



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 (run-off...) 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 – most of these measures are man-made anyway...
- Is aquifer recharge an NWRM?
- Is a runoff storage tank an NWRM?



Classifying NWRM

We can distinguish between:

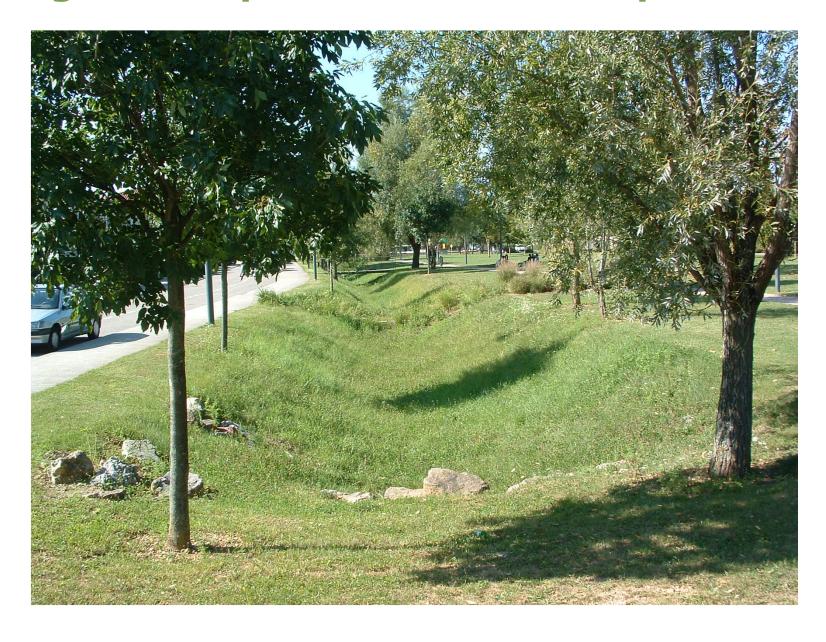
- Restoration measures. Direct interventions over:
 - Rivers and connected wetlands
 - Lakes and connected wetlands
 - Aquifers
- Changes or adaptation of land-use practices in:
 - Agriculture
 - Forestry
 - Urban
 - Natural areas

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)
- Potential overlaps or gaps in measures or measures that have nothing to do with "NWRM"!
 - we're interested in yours thoughts and suggestions
- Is it possible to have a comprehensive list (and do we need it)?



What makes NWRM "of interest" and effective?

Hydrological effectiveness

- Slowing and/or reducing flow
 - Reduce flood peaks
 - Retain water for dry periods
- Individual measures may have limited effects
 - Combining measures so the right measure is at the right place (spatial) => highest cumulative & downstream benefits

And other environmental (+) impacts

E.g. Retaining polluting substances, sediments...



NWRM and the WFD

- NWRM relate to a diversity of pressures (hydrological, morphological, water quality, biodiversity...)
- They can be cost-effective solutions (see budgetary constraints) for achieving the WFD objectives
- They bring multiple benefits (that need to be accounted for in economic assessments...)
- They can be the basis for new (water-related)
 financing mechanisms (e.g. Payments for Ecosystem Services)



A key challenge: finding the right planning process for specific NWRM

- NWRM are measures that can be specifically considered in the WFD and Floods
 Directive planning processes
- They can also be part of planning processes of parallel policies/initiatives
 - Climate change adaptation
 - Agriculture/rural development
 - Forestry management
 - Biodiversity/nature protection
 - Urban planning (SUD...)
 - ...



In conclusion

- Many NWRM are not new!
- But they are a novelty in the WFD planning process...
- And are not yet "streamlined" in other (sector) policies – that need to recognise and account for their "water benefits"
- A challenge ahead for the second and/or third RBMP process?

